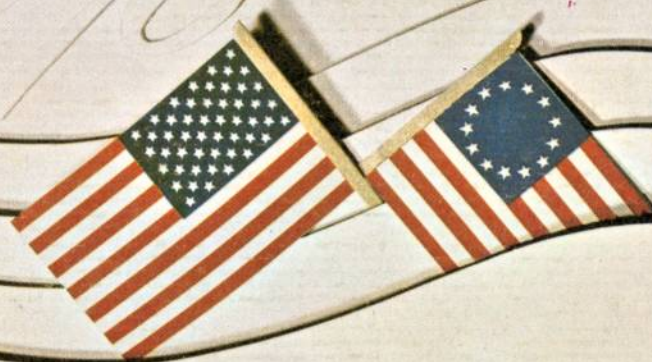




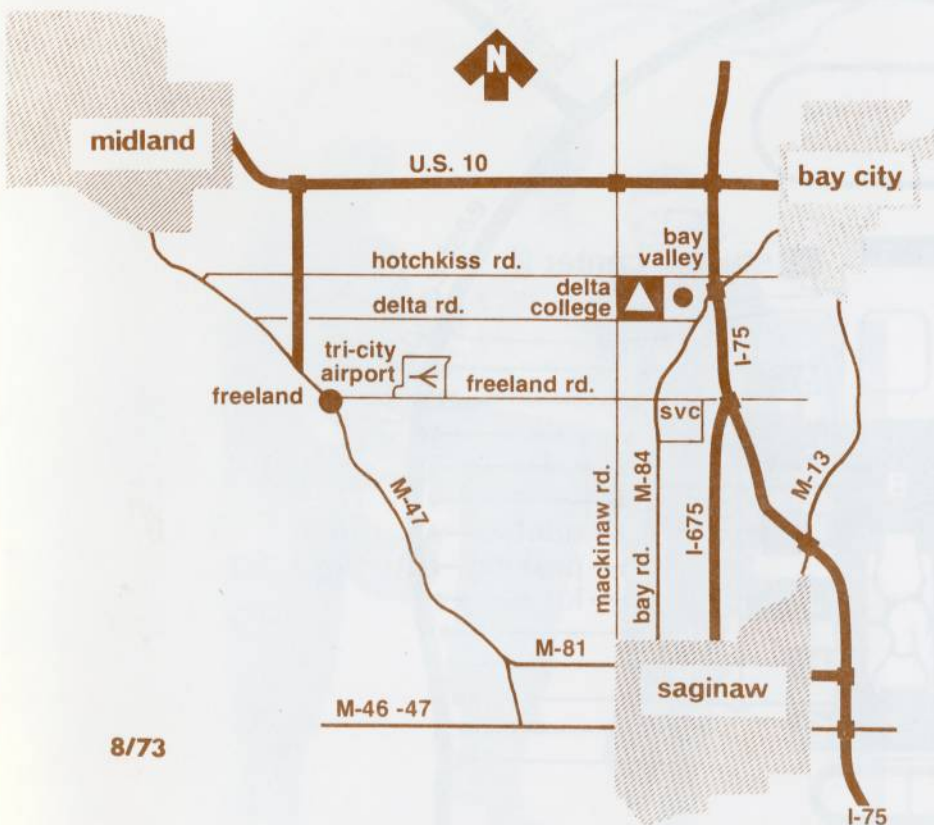
1776-1976



Spirit of '76 · Delta College Catalog · Bicentennial Edition

WHO TO CONTACT

		Extension	Location
Activities	Director, Student Activities	327	Student Center
Add a course	Registration Center	285	A-Wing
Application	Admissions Office	328	Near G-H Wings
Average (Grade Point)	Office of the Registrar	466	A-Wing
Career Counseling	Counseling Office	321	Near J-K Wings
Certificate Requirements	Office of the Registrar	466	A-Wing
Change Courses	Counseling Office	321	Near J-K Wings
Change Program	Counseling Office	321	Near J-K Wings
Credits (Accumulated worth)	Office of the Registrar	466	A-Wing
Credit by Examination	Office of the Registrar	466	A-Wing
Degree requirement	Office of the Registrar	466	A-Wing
Drop a course	Registration Center	285	A-Wing
Employment Office	Placement Office	264	J-Wing
Financial Aid	Office of Financial Aid	264	J-Wing
Housing		413	H-J Wing
I.D. Cards	Admissions Office	328	Near G-H Wings
Illness or injury			
(Immediate treatment)	Health Services	250	East side, B-Wing
Incomplete Grade	Instructor	—	
Interlink Information	College Relations	630	A-Wing
Interlink Information Desk	College Relations	632	A-Wing
Job (On or off campus)	Placement Office	264	J-Wing
Lost and Found	Security Office	360	East side, B-Wing
Personal Problem	Counseling Office	321	Near J-K Wings
Public Relations	College Relations Office	206	A-Wing
Refund (Tuition)	Controller/Registrar	314/370	A-Wing
Registration	Registration Center	285	A-Wing
Social & Cultural Event Tickets	Cashier	270	A-Wing
Social Security Benefits	Office of the Registrar	466	A-Wing
Sports	Health, Phys. Ed.		
	and Recreation Office	241	B-Wing
Transcript	Office of the Registrar	466	A-Wing
Transfer (To another college)	Counseling Office	321	Near J-K Wings
Transferability	Counseling Office	321	Near J-K Wings
Tuition Deposit	Cashier	270	A-Wing
Varsity Sports	Health, Phys. Ed.,		
	and Recreation Office	241	B-Wing
V.A. Benefits Certification	Office of the Registrar	466	A-Wing
Veterans Information	Veterans Representative	293	J-Wing
Withdrawal from College	Registration Center	285	A-Wing



8/73

tri-county map

delta college
university center, mi. 48710
phone 1-517-686-0400

General Information	11
Admissions and Financial Information	15
Academic Information and Regulations	20
Student Services and Student Activities	23
Programs of Study	27
Transfer Programs	27
Career Programs	32
Course Descriptions	57
Community Services	117
Faculty	129
Administrative Staff	136
Counselors	138
Support Staff	139
Index	Inside back cover

If you are interested in admission or desire additional information, please fill out and mail the card below.

If you would like to discuss your educational plans with an Admissions counselor, call 517-686-0400 (Bay City) or 517-662-4431 (Midland) for an appointment.

DELTA COLLEGE

Name: _____ Age: _____

Address: _____ Telephone: _____
Street City State Zip Area Code Number

☐ Please send me an application for admission.

Please send additional information about:

1) _____

2) _____

3) _____

If you are interested in admission or desire additional information, please fill out and mail the card below.

If you would like to discuss your educational plans with an Admissions counselor, call 517-686-0400 (Bay City) or 517-662-4431 (Midland) for an appointment.

DELTA COLLEGE

Name: _____ Age: _____

Address: _____ Telephone: _____
Street City State Zip Area Code Number

☐ Please send me an application for admission.

Please send additional information about:

1) _____

2) _____

3) _____

Bus. Reply Mail
First Class Permit
No. 508
Bay City, Michigan

Business Reply Mail

No postage necessary if mailed in the United States

Director of Admissions
Delta College
University Center, Michigan 48710



Bus. Reply Mail
First Class Permit
No. 508
Bay City, Michigan

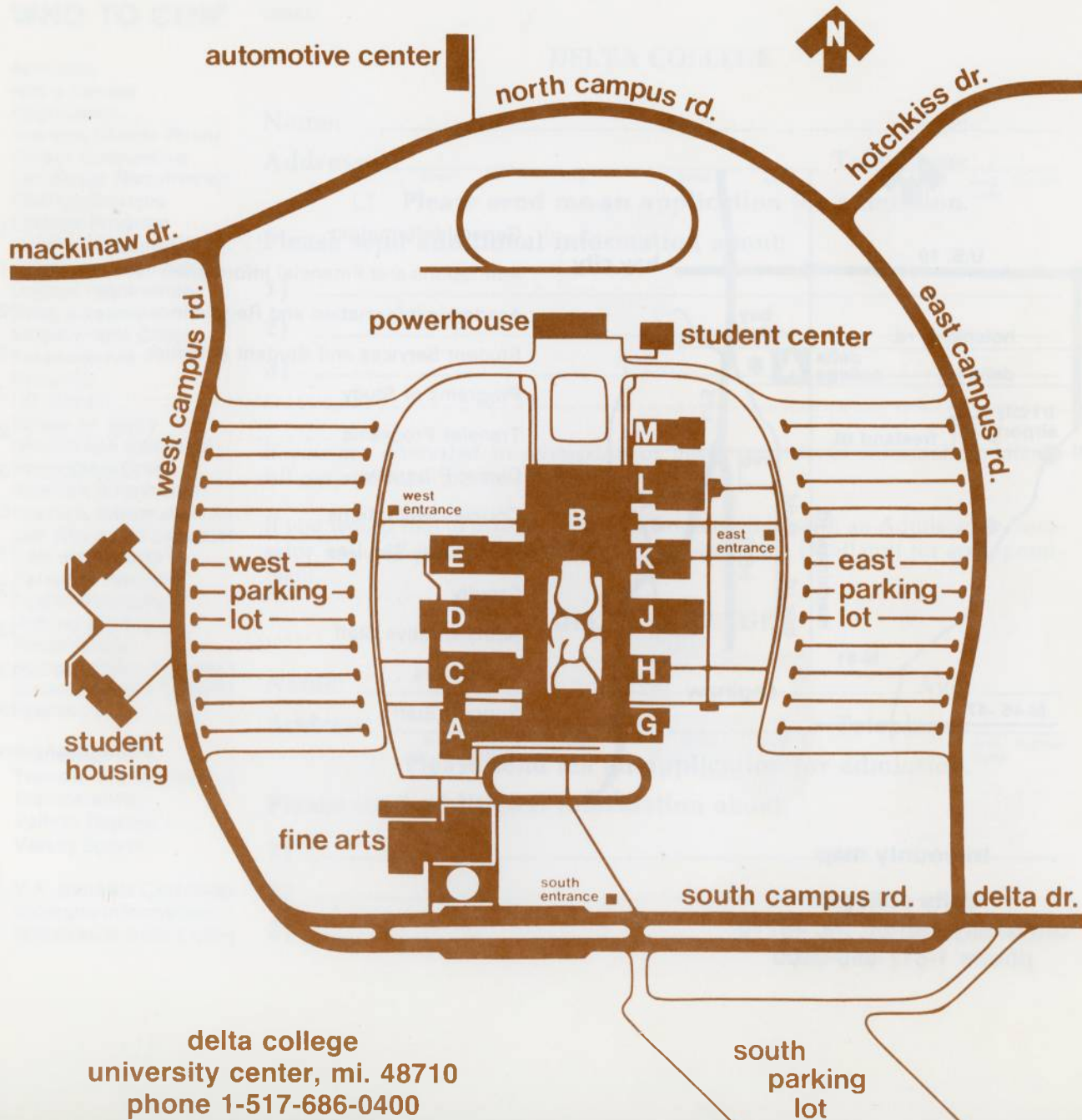
Business Reply Mail

No postage necessary if mailed in the United States

Director of Admissions
Delta College
University Center, Michigan 48710



campus map





WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education

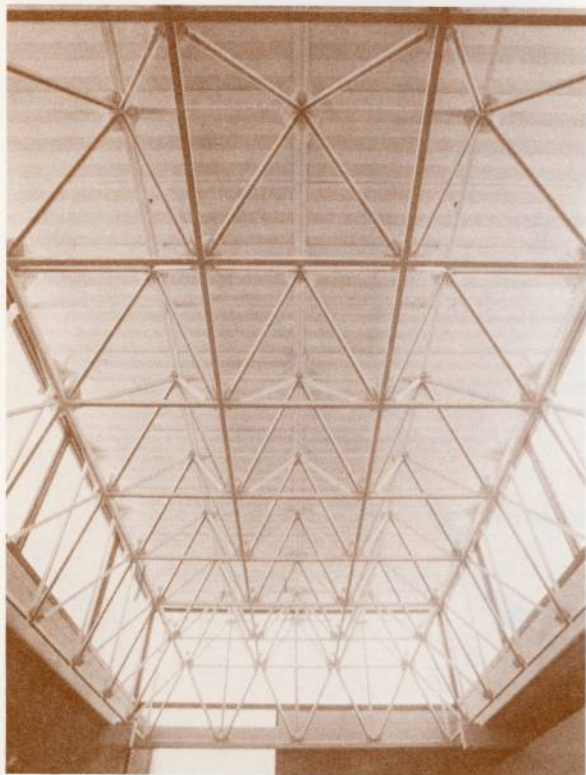
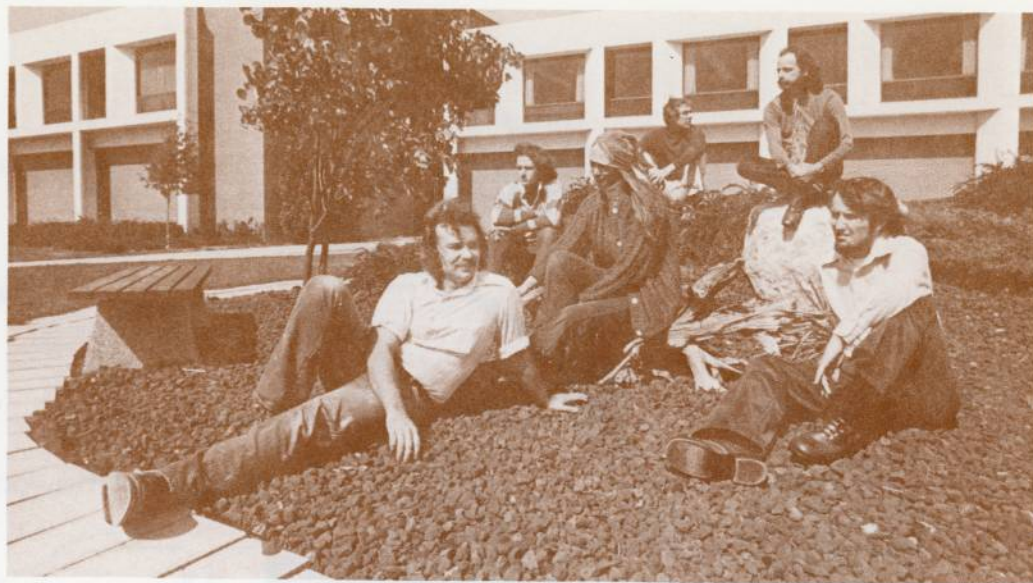
WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education

WILLIAM J. HARRIS
 Director of Physical Education



1975-1976 GENERAL CATALOG DELTA COLLEGE

UNIVERSITY CENTER, MICHIGAN 48710

A State Assisted Community College Serving the Tri-County Area of Bay, Saginaw, and Midland Counties.
Phone (517) 686-0400 or from Midland 662-4431, University Center, Michigan 48710

BOARD OF TRUSTEES

PHILIP C. DEAN, Bay
Chairman

DR. ROBERT G. APP, Saginaw
Vice-Chairman

STUART J. BERGSTEIN, Midland

WILLIAM R. COLLINGS, Midland

MRS. GILBERT DEIBEL, Saginaw

HARRY E. MILES, JR., Saginaw

DONALD R. MITCHELL, Bay

W. BROCK NEELY, Midland

SCOTT J. NEWCOMBE, Bay

ADMINISTRATIVE OFFICES

DONALD J. CARLYON
President

HAL D. ARMAN
Assistant to the President

M. GENE ARNOLD
Administrative Dean

WILLIAM J. BALLARD
Director of Television

MICHAEL L. CROVELLA
Business Manager

KARL F. DUBOIS
Dean of Community Affairs

ELLSWORTH J. DUGUID
Dean of Student Affairs

JOHN H. KRAFFT
Director of
College Relations

JOHN L. KRAWCZYK
Controller

LESLIE MYLES
Director of
Research & Development

ARTHUR J. OETTMEIER
Dean of Academic Affairs



PRESIDENT'S MESSAGE

For some time, we have been involved in the process of redefining the basic mission of Delta College in the light of the dramatic changes which have occurred during the last five years.

For example, our headcount enrollment in academic and community education classes has climbed from 6,000 students in 1968 to over 10,000 today, while our campus master plan projects a college of 15,000 students by the late 1980's.

In the area of curriculum development, we are offering twice as many college career classes as we did five years ago with the greatest growth coming through the addition of new two-year Associate Degree programs in the fields of allied health, business, the engineering technologies, law enforcement, public service and broadcasting.

Moreover, we continue to attract substantial numbers of liberal arts and sciences transfer students. About 50% of our students intend to transfer to senior colleges and universities.

In 1968 our teaching faculty numbered about 135. Today, there are 180 professional instructors on the campus representing nearly every state in the Union with an additional 90 area professionals teaching in our evening classes. Moreover, the faculty who teach the community education courses for service credit has increased from 45 to 125 during this period.

Recent accounts in the newspapers have detailed the development of our college building program. Since 1968 two student residency units, three general classroom wings, the Automotive Service Center and the Fine Arts & Classroom Center have been constructed. We are now embarked on the planning and design phase of the second major project in our building program, the new Allied Health Center to be built in the northwest zone of the school. Following completion of this project, plans are to add a new Learning Resources Center and a new Vocational-Technical Center in the northeast zone.

Now in our 14th year of operation, it has become increasingly obvious to me that the College today is serving a tremendously diverse number of people and constituencies. Clearly, the delivery system which brings our programs and services to the people has had to undergo manifest changes. No longer do we simply offer a schedule of classes on the campus as a matter of course. We are also exporting our programs into the community.

For example, this Fall we opened three new extension centers. Each center will provide a selection of both academic and community education classes. This brings to 22 the number of off-campus locations where it is possible to attend Delta College. Certainly, this represents an important new dimension in our commitment to provide services to citizens of the district wherever they may reside.

As you are aware, we offer a wide variety of services for business, industry, labor and the professions which are provided on a rather specialized basis.

For example, over 10,000 businessmen have participated in our management training through television by viewing Channel 19 programs in their conference rooms, cafeterias or retail outlets. Among these clients are Michigan Bell, General Motors, the City of Saginaw, both Dow Chemical and Dow Corning, Consumers Power and numerous small businesses.

Another program involves the establishment of apprenticeship training at Delta College serving approximately 500 members of the labor community. The apprenticeship program was developed through the cooperation of area unions and industry. Manufacturing firms in the counties comprising the Delta district are represented.

This Fall, TV-19 will serve an important segment of the community with instructional television. Through the cooperation of Michigan Classroom Television and local schools, WUCM-TV will air instructional programs to nearly 40,000 Kindergarten through 6th grade students with such favorites as "Sesame Street," "Mr. Rogers Neighborhood," "Zoom," "Carrascolendas," "Villa Alegre," and "The Electric Company." Through Delta College television, thousands of homes in the tri-communities have become classrooms for instruction.

Another out-reach special this Fall over TV-19 involves the series "The Ascent of Man" involving an interdisciplinary approach at Delta in combination with this award-winning Public Broadcast Service program.

Contract programming is another unique way to bring our services to the community. In this concept the client contracts with the college for badly needed specialized classes with the school providing the instruction and teaching aids and the client the manpower to be trained.

Contract programming has taken the college into the GM plants to offer pre-apprentice training to minority groups; into the management area of the GM complex to train and upgrade secretaries; into Northern Bay County to provide a quality control course for Northern Tube of Pinconning; into the Saginaw News to re-train personnel for the new photo-composition process and into area union halls for courses on labor-management relations, labor decision making and the like.

These are but a few examples of how seriously we take our commitment to provide the educational services needed by your community.

Faithfully



Donald J. Carlyon
President

COLLEGE CALENDAR 1975-1976

ACADEMIC CALENDAR 1975

DATE	TIME	DAY	ACTIVITY
WINTER SEMESTER			
Jan. 2, 3		Thurs., Fri.	Registration*
Jan. 6	7:00 a.m.	Mon.	Classes Begin
Feb. 25		Tues.	First 7½ Week Classes End
Feb. 26		Wed.	Second 7½ Week Classes Begin
Apr. 16-19		Wed.-Sat.	Final Exams
Apr. 20		Sun.	Commencement

SPRING SEMESTER 15 Week Session

April			Registration*
April 28	7:00 a.m.	Mon.	Classes Begin
May 26		Mon.	Memorial Day (College Closed)
May 27	7:00 a.m.	Tues.	Classes Resume
July 4		Fri.	Independence Day (College Closed)
July 7	7:00 a.m.	Mon.	Classes Resume
Aug. 12	11:00 p.m.	Tues.	Classes End

Spring Session (7½ Weeks)

April			Registration*
April 28	7:00 a.m.	Mon.	Classes Begin
May 26		Mon.	Memorial Day (College Closed)
May 27	7:00 a.m.	Tues.	Classes Resume
June 18	11:00 p.m.	Wed.	Classes End

Summer Session (7½ Weeks)

June			Registration*
June 23	7:00 a.m.	Mon.	Classes Begin
July 4		Fri.	Independence Day (College Closed)
July 7	7:00 a.m.	Mon.	Classes Resume
Aug. 13	11:00 p.m.	Wed.	Classes End

FALL SEMESTER

Aug. 25-27		Mon.-Wed.	Registration*
Sept. 2	7:00 a.m.	Tues.	Classes Begin
Oct. 22		Wed.	First 7½ Week Classes End
Oct. 23		Thurs.	Second 7½ Week Classes Begin
Nov. 27	7:00 a.m.	Thurs.	Thanksgiving Recess Begins
Dec. 1	7:00 a.m.	Mon.	Classes Resume
Dec. 15-17		Mon.-Wed.	Final Exams

ACADEMIC CALENDAR 1976

DATE	TIME	DAY	ACTIVITY
WINTER SEMESTER			
Jan. 5-7		Mon.-Wed.	Registration*
Jan. 8	7:00 a.m.	Thurs.	Classes Begin
Feb. 27		Fri.	First 7½ Week Classes End
Mar. 1		Mon.	Second 7½ Week Classes Begin
Apr. 19-21		Mon.-Wed.	Final Exams
Apr. 25		Sun.	Commencement

SPRING SEMESTER 15 Week Session

April			Registration*
May 3	7:00 a.m.	Mon.	Classes Begin
May 31		Mon.	Memorial Day (College Closed)
June 1	7:00 a.m.	Tues.	Classes Resume
July 5		Mon.	Independence Day (College Closed)
July 6	7:00 a.m.	Tues.	Classes Resume
July 17	11:00 p.m.	Tues.	Classes End

Spring Session (7½ Weeks)

April			Registration*
May 3	7:00 a.m.	Mon.	Classes Begin
May 31		Mon.	Memorial Day (College Closed)
June 1	7:00 a.m.	Tues.	Classes Resume
June 23	11:00 p.m.	Wed.	Classes End

Summer Session (7½ Weeks)

June			Registration*
June 28	7:00 a.m.	Mon.	Classes Begin
July 5		Mon.	Independence Day (College Closed)
July 6	7:00 a.m.	Tues.	Classes Resume
Aug. 18	11:00 p.m.	Wed.	Classes End

FALL SEMESTER

Aug. 30- Sept. 1		Mon.-Wed.	Registration*
Sept. 7	7:00 a.m.	Tues.	Classes Begin
Oct. 27		Wed.	First 7½ Week Classes End
Oct. 28		Thurs.	Second 7½ Week Classes End
Nov. 25		Thurs.	Thanksgiving Recess Begins
Nov. 29	7:00 a.m.	Mon.	Classes Resume
Dec. 20-22		Mon.-Wed.	Final Exams

*Further registration information is detailed in each Semester's Class Schedule Booklet.

AIMS AND OBJECTIVES

Delta College is a community college with comprehensive aims and objectives determined by the residents of Michigan, the citizens of the Delta College District, the faculty, staff, and Board of Trustees. The College is dedicated to the immediate educational needs of the Delta community and also to the present and future educational needs of all its constituents above high school age regardless of age or previous academic achievement. Delta College is further committed to continue and expand its participation in the social, cultural, and economic development of the Delta Community.

More specifically, the mission of Delta College is to provide the following educational services:

- Career programs of two basic types; those designed to provide lower division and preprofessional programs which prepare students for entry into the baccalaureate institutions of their choice, and those designed to prepare students for employment immediately upon completion.
- Opportunity for continuing education designed to provide career and personal enrichment.
- Guidance, counseling and advisement services to students in the areas of educational, social, personal, and career development.
- Cultural programs and services designed to enrich the life of the community.
- Delta College faculty and staff services to the tri-county area for consultation, coordination, assistance, and participation in the social, economic, cultural, and educational enhancement of the Delta Community.



COLLEGE CALENDAR 1973-1974

ACADEMIC CALENDAR 1973

DATE	TIME	ACTIVITY
SEP 1	8:00	NEW STUDENT ORIENTATION
SEP 2	8:00	NEW STUDENT ORIENTATION
SEP 3	8:00	NEW STUDENT ORIENTATION
SEP 4	8:00	NEW STUDENT ORIENTATION
SEP 5	8:00	NEW STUDENT ORIENTATION
SEP 6	8:00	NEW STUDENT ORIENTATION
SEP 7	8:00	NEW STUDENT ORIENTATION
SEP 8	8:00	NEW STUDENT ORIENTATION
SEP 9	8:00	NEW STUDENT ORIENTATION
SEP 10	8:00	NEW STUDENT ORIENTATION
SEP 11	8:00	NEW STUDENT ORIENTATION
SEP 12	8:00	NEW STUDENT ORIENTATION
SEP 13	8:00	NEW STUDENT ORIENTATION
SEP 14	8:00	NEW STUDENT ORIENTATION
SEP 15	8:00	NEW STUDENT ORIENTATION
SEP 16	8:00	NEW STUDENT ORIENTATION
SEP 17	8:00	NEW STUDENT ORIENTATION
SEP 18	8:00	NEW STUDENT ORIENTATION
SEP 19	8:00	NEW STUDENT ORIENTATION
SEP 20	8:00	NEW STUDENT ORIENTATION
SEP 21	8:00	NEW STUDENT ORIENTATION
SEP 22	8:00	NEW STUDENT ORIENTATION
SEP 23	8:00	NEW STUDENT ORIENTATION
SEP 24	8:00	NEW STUDENT ORIENTATION
SEP 25	8:00	NEW STUDENT ORIENTATION
SEP 26	8:00	NEW STUDENT ORIENTATION
SEP 27	8:00	NEW STUDENT ORIENTATION
SEP 28	8:00	NEW STUDENT ORIENTATION
SEP 29	8:00	NEW STUDENT ORIENTATION
SEP 30	8:00	NEW STUDENT ORIENTATION



GENERAL INFORMATION

HISTORY AND COMMUNITY

History. Delta College is a public, tax-supported community college serving the three counties of Bay, Midland, and Saginaw. The community served by Delta College has directly influenced its character and philosophy. Citizens of both urban and rural backgrounds have worked through the years to develop support for an institution dedicated to serving the needs of the tri-county area.

Although Delta College is a relatively new and independent institution, it has continued without interruption the educational opportunities previously provided by Bay City Junior College. The Bay City Board of Education voted in July, 1922, to establish the Bay City Junior College. As the demand for education beyond high school increased in the tri-county area, the percentage of students attending the College from outside the K-12 Bay City Public School District steadily increased to the point that in the early 1950's approximately fifty percent of the total enrollment was non-resident, with about forty percent of the enrollment from Saginaw.

In 1955 a committee was organized from the three counties that are presently incorporated in the Delta College District to study the needs of higher education in the Saginaw Valley area. After more than a year of study, this committee, known as the Committee of 300, published on October 3, 1956, a proposal to establish a college in the tri-county area. The report of this committee, the *Final Report of the Tri-County College Study*, formed the basis for the development of a program to establish and finance a new college.

The Committee of 300 recognized that the tri-county area had need for a college that would offer two-year programs, cultural programs, continuing and adult education, and counseling services to people of the area.

In 1957, legislation was submitted to the State of Michigan Legislature, and in the same year, the voters of Bay, Saginaw, and Midland Counties formed a community college district under Act 182 of the Public Acts of 1957 for the purpose of financing, building, and operating a new institution of higher learning.

At the time the College was established the voters authorized a levy of 1.5 mills to construct and operate a college. In August, 1958, bonds totaling eight million dollars were sold to provide the necessary capital funds. Construction began in 1958 and the original plant was completed in September, 1961. In November, 1968, a millage proposal was approved by the voters of all three counties to remove restrictions on the fixed apportionment of the 1.5 mills between operations and debt retirement.

From the creation of the Tri-County College District in 1959 to the opening of Delta College in 1961, members of the faculty and staff of Bay City Junior College assisted in planning for the new college.

Many of the Bay City Junior College faculty, students and staff became part of the new college.

The report of the Committee of 300 also stressed the need for a four-year college in the Saginaw Valley. After extensive consideration and discussion by local and state educators over a period of eight years, a new four-year institution, Saginaw Valley College, was established, in 1964.

With the establishment of the four-year institution, Delta College re-directed and re-defined its philosophy and objectives in order to become a comprehensive community college designed to serve the requirements of the tri-county area.

Initial accreditation was granted the College in October, 1962 by the Michigan Commission on College Accreditation. A status study to prepare for candidacy was submitted to the North Central Association of Colleges and Secondary Schools in May, 1964, as a first step toward regional accreditation. College officials were notified in July, 1966 that the College had been accepted as a candidate for accreditation based on a report of a North Central visitation team. The *Self-Study Report* was completed in May of 1967, and accreditation was granted in April of 1968.

Community. The Delta College site, at University Center, Michigan, a 640-acre campus complex, in Bay County, lies almost midway between the counties' major cities of Saginaw (92,000), Bay (49,000), and Midland (35,000). This triangle forms the heart of the Saginaw Valley, which is drained by the Saginaw River and its tributaries, northward to the Saginaw Bay and Lake Huron. Bay County adjoins the Bay, an important recreational area and waterway, whose ports are part of the St. Lawrence Seaway system.

The region occupies a transitional zone between the highly urbanized, industrial areas of Southeast Michigan and the resort and recreation areas to the north. However, the tri-counties currently have a higher percentage of manufacturing employment than the 37-county Urban Detroit Area as defined by the Doxiadis* report.

The tri-county area is one of the major concentrations of population within the state. The 1970 population census reports an area population of approximately 401,000. Sixty-three percent of the people are classified as urban residents, with forty-four percent within city limits.

There are many ethnic groups in the tri-county district and they are represented in Delta's student body. Blacks constitute the largest minority group, with less than one percent in Midland County, approximately two percent in Bay County, and twelve percent in Saginaw. Over 15,000 individuals with Spanish surnames comprise a second minority group and make up about three percent of the tri-county population. Other ethnic groups are mostly European and Native American.

The high percentage of urban population can largely be explained by the concentration of industry within the area. Over ninety-five percent of the employed work force are in occupations other than agriculture.

*Constantinos A. Doxiadis, "Emergence and Growth of an Urban Region: The Developing Urban Detroit Area", The Detroit Edison Company, 1966-70.

Each county has a major concentration of industry. The Dow Chemical Company and Dow Corning Corporation have large plants and international corporate headquarters in Midland. Bay City's employment centers around Chevrolet Motors and Defoe shipyard. The latter's position on the Saginaw River enables it to build ships for countries all over the world. Saginaw, the largest industrial center, has a number of General Motors industries and has the largest foundry concentration in the country.

The Tri-County area is also well known for its agricultural products. Sugar beets, beans and potatoes are grown extensively throughout the Valley. On a national basis, Saginaw and Bay County rank number one and two in sugar production and one and five in bean growing, respectively. Beans are shipped from the area to foreign ports. The farms are operated with a high degree of mechanization.

The Tri-County region has exhibited an impressive growth rate in the last twenty years. Between 1950 and 1960, a 30 percent increase in population occurred. Although the growth rate is slowing as the total population continues to increase, the rate of growth is slower between 1960 and 1970. The growth rate for the Tri-County area was fifteen percent, half the growth rate for the 1950-1960 decade.

Accreditation and Institutional Affiliations. Delta College is accredited by and is a member of the North Central Association of Colleges and Secondary Schools. The Nursing Curriculum is accredited by the National League for Nursing and the Michigan Board of Nursing; The Dental Assisting Curriculum is accredited by the Council on Dental Education, American Dental Association; and The Radiologic Technology Curriculum is accredited by the Joint Review Committee on Education in Radiologic Technology. Delta College is also a member institution of the American Association of Junior Colleges, the Michigan Associations of Collegiate Registrars and Admissions Officers. Additionally, Delta College is a member institution of the Michigan Academy of Arts, Sciences, and Letters.

National League for Innovation. Delta College is a charter member of the National League for Innovation in the Community College. League membership includes fifteen of the most innovative community college districts in the nation. The stated aim of the League for Innovation is to encourage and evaluate innovation and experimentation designed to improve all aspects of college operation.

Membership in the League constitutes a significant recognition of the Delta College District. As a charter member, Delta College is committed to:

- (1) a program of innovation, experimentation and improvement.
- (2) willingness to share the fruits of such innovation.
- (3) a cooperative program with other districts on the solution of common problems.
- (4) an evaluation of experimentation and the application of results of innovation in the orderly operation of the district's operation programs.

The President of Delta College serves as a member of the Board of Directors of the League for Innovation. Delta College has assigned itself the task of developing instructional innovations to broaden the institution's educational impact.

A sampling follows:

- Teaching/Learning Center
- Auto-Tutorial Nursing (multi-media)
- Team Teaching Geography
- Intensified Learning
- Advanced Institutional Development Grant Program
- Open Circuit Television Instruction
- Computerized Evaluation and Analysis
- Off-Campus Educational Services
- Interdisciplinary Travel Seminars
- Integrated Basic Science for Allied Health Students
- Institutional Research
- Developmental Reading Program
- Expansion of Independent Study Programs
- Para-Professional Student Services
- Extension Center System
- Inmate Rehabilitation Program
- Interlink Information System
- Danforth Foundation Special Project
- Management and Planning by Objectives
- Computerized Resource Requirements
- Prediction Model (RRPM)

Master Campus Plan. The Delta College Long Range Development Plan was first approved in 1969 as a working document providing planning assistance to the Board of Trustees, Administration and the Michigan Department of Education. The Plan provides for a campus of the future designed to serve approximately 15,000 students by the mid-eighties. From institutional objectives, immediate and long-range needs are identified and translated into physical development. In addition to site development, facility requirements include: an Allied Health Center; a College Center and expanded Learning Resources Center; Vocational-Technical Center; expanded Physical Education facilities and a Communication Arts Center. The Fine Arts & Classroom Center opened its doors to students in September of 1972.

Institutional Affiliations. Delta College's accreditation provides academic affiliation with state and outstate colleges and universities, thereby insuring Delta students easy and rapid transferability. Delta College maintains liaison with transfer institutions by preparing, with their assistance, curricula guides indicating specific academic requirements. Moreover, with their help, Delta College follows through on students' progress once they have transferred.

Delta College Academic Credit Programs. Programs of study in Delta College day and evening course work are designed to serve students above high school age with a variety of interests and objectives. For detailed course or curriculum information, contact the Counseling Office, extension 321.

Teaching/Learning Center. The Teaching/Learning Center, located in the East Concourse, provides diagnostic analysis and prescriptive programs for students who want to improve their skills in reading, writing, speaking, and other forms of communication. These services are provided to any student enrolled in at least one course at Delta College. Assistance is also provided to Delta faculty and staff members who wish to improve the effectiveness of their interactions with students.

LEARNING RESOURCES CENTER

As a part of the Learning Resources Center, the library is an integral segment of the total learning environment. The present collection of books numbers over 70,000 volumes, with back files of periodicals. In addition to extensive holdings in books, journals, magazines, newspapers, pamphlets, microfilm, and records, there is a film library of over 600 films and a collection of cassette tapes available for viewing and listening. Equipment necessary for use of these resources, such as tape recorders, record players, and projectors, is also available to students and faculty.

The library meets the standards of the Association of College and Research Libraries, a section of the American Library Association. The library is also a selective repository for United States Government documents and a number of United States Government periodicals.

Every effort is made to procure needed books and periodicals within the least possible time if available in the immediate source area.

In an attempt to offer students maximum use of the Learning Resources Center, the facility is open Monday through Friday from 7:30 a.m. to 10:00 p.m., Saturday from 8:00 a.m. to 2:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m. A librarian and student assistants are available during these hours to offer help and service.

In addition to the services one would normally expect to find in the Center, many optional services are available, such as: (1) Library tours, (2) services of research, (3) the loan of a textbook, (4) assistance in preparation of classroom presentations, (5) use of tape players in private rooms, (6) assistance with bibliographies, (7) prepare visuals for presentations, (8) offer the loan of tutorial ma-

terials in many subject areas through use of tapes, slides, and film, and (9) art and photographic services for classroom and administrative requirements.

The Audio-visual Division of the Learning Resources Center provides up-to-date equipment and materials for use in the academic and service programs of the College. Most of this equipment is available to students as well as faculty. Audio-visual laboratories for individual instruction and study are available for student use.



ADMISSION AND FINANCIAL INFORMATION

ADMISSION SERVICES

The College employs admission counselors to facilitate admission. The services of such counselors may be sought regarding questions involving procedures, financial information, curriculum advisement, pre-registration or registration.

Admission to Delta College. All adults who express a sincere desire for additional education are eligible to apply for admission to Delta College. Factors such as previous school course work, citizenship, motivation, and potential are considered in the Admission process. Retention in the College is based upon an acceptable level of academic growth and improvement, along with a continued record of good citizenship. A non-high school graduate, 18 years of age or older, who has been out of high school for at least a 6 month period of time, may be granted admission. Such a student may wish and is encouraged to take the G.E.D. Test while attending Delta. The G.E.D. Test, however, is not required before Admissions. Because of diverse curricular offerings and individualizing of programs, Delta College is able to serve students of varying backgrounds. To facilitate the students success, counseling is emphasized throughout the students course of study. Students will be classified for admission purposes in one of the following categories: (1) regular admission, (2) provisional admission, (3) special admission, (4) guest admission, (5) transfer admission.

(1) Regular Admission. The applicant must submit a transcript of credits from an accredited high school, or its equivalent, and demonstrate his potential to pursue college level study as determined by high school achievement.

(2) Provisional Admission. Applicants whose educational background needs strengthening in certain areas are normally admitted on a provisional basis and may be limited to twelve credits. Students admitted provisionally may be required to supplement their background and achievement before being classified as regular students. Provisional students shall become regular students after demonstrating ability to do college level work.

(3) Special Admission. Special students include early entrance high school students, students with incomplete admission materials, and degree holding students who wish to be admitted to specific courses.

(a) **Early Entrance for High School Students.** High School students admitted for early entrance may be admitted to specific courses with the permission of their high school principal and when their records of high achievement and potential satisfy the prerequisites for the specific course selected.

(b) **Incomplete Admission.** Special students may be admitted prior to the completion of the admissions requirements upon approval of an Admissions Director. Such students will be required to complete admission requirements by the end of the semester to determine their status for the next semester.

(c) **Degree Holding Students.** Applicants holding college degrees may be admitted for particular courses if they satisfy the prerequisite of these courses.

(4) Guest Admission. Students enrolled in other institutions who wish to attend Delta College as guests, may submit an approved Michigan Uniform Undergraduate Guest Application and pay all matriculation and advance deposit fees required by Delta College. Guest student applications may be secured either from the Delta Admissions Office or from the registrar of the institution at which the student is enrolled.

(5) Transfer Admission. Transfer students are admitted to Delta College on an individual basis. All procedures applicable to the admission of new students will be followed. Additional procedures require the submission of all academic records from each institution attended. After admission, all requirements of Delta College must be met. Transfer students with academic achievement of less than "C", if admitted, will be admitted on probation. Transfer students should submit the records of their academic achievement as early as possible so that the records can be evaluated prior to counseling and preregistration course selection.

Acceptance of Transfer Credit. A student transferring to Delta College will be given equivalent Delta credit for previous courses completed with "C" or above grades. This student will also have the option . . . at the time of initial counseling . . . to receive from 1-8 semester hours of "D" grades in course work.

Acceptance of non-equivalent transfer course credits (1-8 semester hours) may be considered prior to or during the first semester of attendance at Delta College. For acceptance of such transfer credit, the course work must have passing grade(s) and be appropriate to the student's curriculum.

ADMISSION OF INTERNATIONAL STUDENTS

International student applicants will generally follow the admission procedures for regular students. Delta College requires that international students be proficient in the English language before entering course work. An additional test may be required to establish the fact of proficiency before admission. International students are admitted on an individual basis and should contact the Director

of Admissions concerning the specific procedure which they should follow. Upon acceptance to college, a form 1-20 will be issued to facilitate receipt of a student visa.

It is the student's responsibility to arrange for a student visa through the United States Immigration and Naturalization Service. International students should contact the nearest United States Embassy for information and procedures regarding the procurement of a student visa. Each student will be required to purchase student insurance on registration day unless adequately covered by a health protection plan and the student must assume all financial obligations incurred while attending Delta College, including travel to and from his homeland. Delta College assumes no financial responsibility for any student and no special funds are set aside for international students. Admission to Delta College is open to all students who meet admission requirements regardless of race, creed, or color.

PROCEDURES OF APPLICATION TO DELTA COLLEGE

Application materials may be secured at local high schools, or from Delta's Office of Admissions.

A. Procedures of Application

1. Complete application.
2. Request the high school to submit a transcript of credits and a personal evaluation form.
3. Request a transcript of credits for all post-high school education from the registrar of each institution previously attended.
4. Submit the \$10.00 matriculation fee.

In order for an application to be processed, it should be accompanied by a \$10.00 matriculation fee. The matriculation fee is a one time only fee and will not be refunded unless a prospective student is refused admission by Delta College.

B. Procedures for Re-Admission

Former Delta Students who wish to re-enroll in the college need to request readmission prior to enrolling.

Re-Admission may be accomplished by telephoning the Admissions Office or by securing and completing a re-admission application. Re-admission applications may be secured from Delta's Admissions Office and will be mailed upon request.

If applicable, request a transcript of credits for all post-high school education from each institution previously attended.

Admission Notification. Notification of admission, re-admission, or denial may be expected within two weeks after receipt of application by the college.

TUITION AND FEE INFORMATION

The following tuition and fee schedule applies to both day and evening students, and is subject to change without notice.

	In District	Out District	Out State
Tuition per credit hour	\$14.00	\$26.00	\$36.00
Student Activity Fee*— per credit hour	.50	.50	.50

*Student Activity Fee for academic courses is assessed each semester, to a maximum of \$7.00 per semester.

The full tuition for each student is due at registration time, there is no system of deferred payment. BankAmericard and Master Charge can be used for tuition and fee payments. Student assistance and loans are available through the Financial Aids Office, but applications must be made well in advance of registration.

LATE REGISTRATION FEE

A late registration fee of \$10.00 *per credit hour* will be added in addition to the appropriate course tuition, for credit hours added beyond the official add-drop period.* Appeals for the waiver of this policy will be considered for reasons beyond the control of the student. Such appeals must be made to the Controller's Office.

***ADD-DROP PERIOD**—Defined as the first 9 days of classes during the 15 week fall, winter and spring semesters, and the first 4 days of classes during the 7½ week spring and summer semesters. For courses and academic periods that deviate from the regular semesters, the add-drop period is 1/10 of the total number of class days the course meets.

ADVANCE TUITION DEPOSIT

An advance tuition deposit of \$20.00 is required and should be paid during the pre-registration period. The \$20.00 advance will be applied against the total tuition due at the normal registration period. The advance tuition deposit may be refunded if the prospective student cancels his application and requests a refund in writing, at least one day prior to the first day of scheduled registration for which the deposit was made.

REFUNDS—TUITION AND FEES

BEFORE CLASSES BEGIN*—A 100% refund of tuition and fees will be made.

*Defined as 4:00 P.M. of the last working day before the date listed for the beginning of classes in the college catalogue or supplementary schedule.

AFTER CLASSES HAVE BEGUN—Tuition and fees will be refunded only for courses that have been cancelled by the college. Refunds for cancelled courses must be applied for at the Registration Center. During the official add-drop period* students are permitted to offset equal credits through the add-drop procedure. Tuition for dropped credits in excess of added credits will not be refunded. For added credits in excess of dropped credits, additional tuition must be paid.

Appeals for waiver of this policy will be considered for reasons beyond the control of the student. Such appeals must be made in writing to the Controller's Office supported by appropriate documentation.

***ADD-DROP PERIOD**—Defined as the first 9 days of classes during the 15 week fall, winter and spring semesters, and the first 4 days of classes during the 7½ spring and summer semesters. For special courses and academic periods that deviate from the regular semesters, the add-drop period is 1/10 of the total number of class days the course meets.

RESIDENCE QUALIFICATIONS

A person's residency classification is established when admitted to Delta College, and can only be changed as detailed under item III.

I. RESIDENCY CLASSIFICATIONS

A person may be admitted to the college in one of the following classifications:

1. In-District—Legal resident of Bay, Midland or Saginaw Counties.
2. Out-of-District—Legal resident of Michigan but not of the above three counties.
3. Out-of-State—All other persons who are not classified under 1 or 2.

II. CLASSIFICATION GUIDELINES

A person will be considered in-district if he meets one or more of the following conditions:

1. The person lives with his parents or legal guardian, provided that the parent or legal guardian resides within the counties of Bay, Midland or Saginaw (Delta College District.)
2. The person is recognized as self supporting (receives no financial support from parent or legal guardian and is not

claimed as a dependent for federal income tax purposes by parent or legal guardian.) He must have resided within the Delta College District for at least six months immediately prior to the first day of the semester in which he plans to enroll.

3. The person is married and resides within the Delta College District. The married couple both must reside in the College District.
4. The person is an employee of a business or industrial firm within the Delta College District, and the employer, by written agreement, agrees to pay directly to the College all tuition and/or fees of the sponsored student for employer-approved classes.
5. The person is enrolled under the provision of Act 245, Public Acts of 1935, as amended by Act 371, Public Act of 1965 (Students receiving benefits under the Michigan Veteran's Trust Fund.)
6. An Alien who has filed Declaration of Intention to become a citizen of the United States and who otherwise meets the residence requirements above shall be considered eligible for in-district status.

All persons that cannot be classified under one or more of the above conditions will be classified either out-of-district or out-of-state.

III. CHANGE OF RESIDENCY STATUS

Change of residency status may take place by petitioning the Registrar of the College (at least one month prior to the next registration) under one or more of the following circumstances:

1. The enrolled student has established residence (see item IV Proof of Residence) within the Delta College District for at least one continuous year prior to the date of petitioning for a change in residency status.
2. The enrolled student is recognized as self supporting (receives no financial support from parent or legal guardian and is not claimed as a dependent for federal income tax purposes by parent or guardian), and has established residence within the Delta College District for at least one continuous year immediately prior to the date of petitioning for a change in residency status.
3. The enrolled student is married and has established residence within the Delta College District for at least one continuous year immediately prior to the date of petitioning for a change in residency status. The married couple both must reside in the Delta College District.

IV. PROOF OF RESIDENCE

All students are subject to a check of resident status at registration. A student may be asked by an assessor for proof of his residence before completing the registration process.

The following examples are types of documents which are considered in determining proof of in-district residency.

1. A valid driver's license indicating an in-district address.
2. A tax receipt from Bay, Midland, or Saginaw counties.
3. A voter registration card indicating an in-district address.
4. Rent receipts.
5. Public utility receipts.

Any student who furnished false information may be subject to disciplinary action.

V. TUITION ADJUSTMENTS

Any adjustments made in tuition due to a change in residency status *shall not* be retroactive.

VI. ATHLETIC SCHOLARSHIP RECIPIENTS AND INTERNATIONAL STUDENTS

Students attending Delta College on an athletic scholarship, or international students in the United States on a student visa, should not ordinarily expect to have their residency status changed while attending Delta College.

VII. RESIDENCY REVIEW COMMITTEE

A Residency Review Committee consisting of the Associate Dean of Students, Business Manager, Controller and two faculty members appointed by the President of the Senate will hear appeals of residency classification as established by the College. Arrangement for a hearing will be made by the Registrar's Office.





ACADEMIC INFORMATION AND REGULATIONS

The Three Semester Plan. The three-semester plan was adopted by the Delta College Board of Trustees as a means of developing year-round operation of the College. The plan makes possible fuller utilization of facilities, gives students more flexibility in long-range course planning, and enables students to complete their academic programs in a shorter period of time.

The Fall, Winter and Spring semesters are each composed of fifteen weeks, and each covers a full semester's work. The Spring semester beginning in April is scheduled as a split-semester divided into two separate parts, each seven and one-half weeks in length, in addition to a fifteen-week semester. This multi-semester meets the needs and desires of a great number of students.

Freshman courses for high school graduates who wish to begin college prior to enrollment in the Fall semester are offered in the second half of the Spring semester. Selected courses for various curricula will be offered as justified by demand.

The two-year academic program offered by Delta College can be completed in one and one-third calendar years. Specifically, a freshman entering in September on one year can complete four semesters by the end of December in the next calendar year; by entering in January he can finish two academic years by April of the following year; and by entering in April he can finish two academic years by August of the following year. However, students are not required to follow so concentrated a program, and course offerings are arranged to meet varying semester attendance patterns.

Class Attendance

1. Attendance is expected at all classes. There is no system of cuts.
2. Courtesy demands that students explain the reasons for their absences to their instructors.
3. It is the responsibility of the student to make definite arrangements for all work before going on field trips to other college sponsored events. If proper credentials for such activities are presented and arrangements made for the work before the event, then the absence should not be reported, but should be recorded in the instructor's records as explained.
4. Except in cases involving field trips or school activities which involve group absences no instructor will require statements from students concerning absences.

Grades and Grade Points. The following grading system will be used in college credit courses:

- A—Excellent
- B—Good
- C—Fair
- D—Poor
- E—Failed

- I—Incomplete
- W—Withdrawn
- X—Audit

The grade point system will be as follows: For each hour of credit of

- A—4 grade points
- B—3 grade points
- C—2 grade points
- D—1 grade point
- E—no grade points

In calculation of the overall grade point average, the number of E hours must be included, although no grade points are allowed.

An "I" (incomplete) grade is granted by special arrangement with the student's instructor. A final grade will be assigned by the instructor at the expiration date of the incomplete deadline.

Grade Reports. A grade report is sent to the student at mid-semester and at the completion of the semester. Students' transcript requests will not be processed if there are delinquent accounts with the college.

Repeat Courses. The highest grade (A,B,C,D, or E) received by a student for any given course shall be the grade used in the cumulative grade point average of all college work taken by the student. All other grades shall remain in his/her transcript and will be designated by the Registrar's Office so it will be known that the grade is not being counted.

Audit. A student may enroll in credit courses as an auditor with audit credit earned for the course. A mark of "X" will be recorded on the permanent record if general requirements of auditing are fulfilled. These are:

1. The student must have a student number (Be matriculated.)
2. Tuition and fees for the courses are the same as credit classification.
3. Course objectives must be fulfilled, other than quizzes or examinations. These may be taken with the approval of the instructor.
4. Once a course is started on an audit basis a study may, with the approval of the instructor, change to credit within eight weeks of the beginning of the semester. Procedures should be carried out through the Registrar's Office.

Academic Standing. Any student deficient more than five honor points but less than sixteen honor points will be placed on probation. Incoming transfer students who are on probation must maintain a 2.0 average or they will be subject to dismissal review. In no instance will a student be awarded an associate degree with less

than a 2.0 (C) cumulative grade point average in a Delta College Associate Degree curriculum.

Any student who is deficient more than fifteen honor points will automatically have his academic record reviewed by the Committee on Academic Standing. The Committee will decide whether the student is permitted to enroll the following semester.

Right of Petition for Re-Admission. A student who is dismissed for academic deficiency may immediately submit a written petition for reconsideration to the Committee on Academic Standing if he/she feels that failure to achieve satisfactory academic performance was caused by unusual personal circumstances. A student who has been dismissed must remain out of school for at least two full semesters after disqualification unless re-admitted by the Committee on Academic Standing.

Classification of Students. Students who have earned fewer than 24 semester hours are classified as Freshmen. Those who have earned 24 or more semester hours are classified as Sophomores. Students enrolled for 12 or more semester hours of course work (including Physical Education) will be classified as full-time students. Students enrolled for fewer than 12 semester hours will be classified as part-time students.

Changing Major (curriculum). A student considering a change of major should discuss such action with a counselor. If a change is warranted, an official change form is completed at Student Services and the change is recorded on the student's records and transcript.

Change in Program of Studies After Registration. Students are expected to complete the courses in which they register. If a change is necessary, students must file a drop or add form at the Registration Center. The date this form is completed at the Registration Center is the official drop/add date for the course.

Added Courses. In general, no course may be added after the first week of the regular semester, or after the third day of a split third semester. (See Registration Center for procedure.)

Dropped Courses. For courses officially dropped in the first week of a regular semester or within the first three days of a split third semester, no grade will be reported or recorded. If the course is dropped between the second week and the tenth week a student will receive a W grade. After the 10 week through the 15th week the grade will be an E, or W grade (if warranted) at the discretion of the instructor and providing proper withdrawal procedures are completed. No course can be dropped after the 15th week of classes.

Withdrawal from College. To officially withdraw from college, the student must have a withdrawal form completed at the Registration Center and this will drop the student from all classes.

Final Examinations. Final examinations are required in all courses except physical education. Final examinations in physical education courses will be given during the last week of the semester prior to the examination days in academic subjects. No student will be excused from taking a final examination. A schedule of final examinations is announced by mid-semester and later in the semester.

Academic Record. Transcripts of student records maintained by the Registrar will be sent, upon request, to any college, university or prospective employer designated by the student. No charge is made for the first transcript; \$1 for each subsequent transcript. Transcripts will not be furnished or forwarded for students who have delinquent accounts at the college.

Recommendation for Transfer. If in addition to a transcript, a student needs a recommendation to the receiving institution, he should present his application to a counselor in the Counseling Center. The recommendation from Delta College will be based on the total information concerning the individual student and not on academic achievement alone. Transfer rules vary with each institution, and for specific information on the requirements for transfer, the student should refer to the Programs of Study section in this bulletin, to the catalog of the college or university which he/she expects to enter, to his/her counselor.

Guest Credit. To receive guest credit for course(s) taken at another college a student should complete a guest application. This application should have the course(s) listed that are to receive guest credit. Only courses having equivalency credit for Delta College courses will be granted credit. Upon completion of such courses the student should request a transcript of course credits be sent to the Delta College Registrar.

Advanced Credit by Examination. Delta College permits students who have gained proficiency in certain areas of knowledge through previous training, experience, or individual study to secure credit by achieving satisfactory scores on examinations in lieu of class work.

There are two major categories to be considered for credit by examination. These are: credits granted for **external examinations** (Advanced Placement and/or College Level Examination Program) where previous evaluation has been made by college personnel and **internal examinations** where established by disciplines, that require college personnel services to develop and evaluate them.

Students may secure further information about either of these types of examinations from the Delta College Registrar, Testing Department, or Director of Admissions.

Delta College reserves the right to modify curricula, policy, tuition, and class offerings at any time.

ASSOCIATE DEGREES OR CERTIFICATES

One of the following will be awarded to a student who completes the requirements:

- Associate in Arts Degree
- Associate in Science Degree
- Associate in Applied Science Degree
- Associate in Business Studies Degree
- One or Two Year Certificates in Occupational Programs.

Graduation Requirements. The Associate Degree requirements listed below are effective with the class entering Delta College in the Fall of 1965 and thereafter until such time as the Board of Trustees and the faculty change the requirements. Students are expected to fulfill curriculum requirements for graduation which were in effect at the time of initial enrollment and listed in that Delta College catalog. Associate Degrees are granted only upon recommendation of the faculty and the Board of Trustees.

REQUIREMENTS FOR THE ASSOCIATE DEGREE

General Requirements

Candidates for the Associate Degree must meet the following requirements:

1. Earn a minimum of 24 semester hours of credit at Delta College. The student must be enrolled at Delta while earning the final credits to complete this requirement.
2. Earn a minimum of 60 semester hours, exclusive of Physical Education.
3. Earn a 2.0 (C) cumulative grade point average in a specific career curricula or a transfer curricula.
4. Earn a minimum of three semester hours in Political Science as required in Act 106, Public Acts of 1954, State of Michigan.
5. Earn two semester hours in Physical Education activity courses (unless officially exempted).
6. File an application for an Associate Degree during registration for the final semester.

Exemptions: (Physical Education)

1. A veteran—defined as having at least one year of continuous active duty.
2. A student who is physically unable to participate (while at Delta College) as certified by a licensed physician.
3. Any other exemption approved by the Division Chairman.

For the Associate in Arts Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.

3. Group requirements in all three groups must be fulfilled.
 - I Humanities 8 credit hours
 - II Social Science 8 credit hours
 - III Science 8 credit hoursThe requirements in all three groups must be fulfilled.

For the Associate in Science Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or equivalent.
3. Group Requirements
 - I Humanities 8 credit hours
 - II Social Science 8 credit hours
 - III Science 20-24 credit hours

For the Associate in Applied Science Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.
3. Satisfactory completion of one of the technical curricula or the Nursing Curriculum, Law Enforcement, Radiologic Technology, Dental Assistant.

For the Associate in Business Studies Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or in Business Communications.
3. Satisfactory completion of a business curriculum.

Certificate Requirements: Satisfactory completion of a certificate curriculum. Students should file an application for a Certificate during registration for the final semester of course work.

Second Associate Degree

A student may earn a second Associate Degree or post-Baccalaureate Associate Degree at Delta College. No less than 24 credit hours of the second Associate Degree requirements shall be earned from Delta College following completion of the first Associate Degree. Previous credits will be evaluated for transfer to this degree as they are applicable and this is determined by the appropriate division of Delta College. There is no carry-over of grade point averages from previous credited course work to the second Associate Degree.

Definition of Group Requirements

Group I Humanities:

Literature, Art Appreciation, Drama, Music Appreciation, or Elements of Music, Languages (French, Spanish, German, Russian), Philosophy, Speech, History III and History 112†

Group II Social Science:

Economics, Geography, History, Political Science, Psychology, Sociology, History 111 and History 112†

Group III Science:

Biology, Chemistry, and Geology, Mathematics, Physics, Allied Health Science, and Physical Geography*.

Graduation Honors. A student is graduated with highest honors if he has completed his curriculum with a cumulative grade point average of 3.8 or higher.

He is graduated with high honors if he has completed his curriculum with a 3.50-3.79 cumulative grade point average.

Honors graduates are those with a 3.2-3.49 cumulative grade point average. Transfer students are eligible for graduation honors if they have completed the last 24 credit hours at Delta College.

Honors. Each semester a Dean's List is issued listing the names of all students who have a current grade point average of 3.5 or higher. To be eligible, a student must be enrolled in 12 credit hours in a fall or winter semester or 6 credit hours in a spring or summer semester.

Student Responsibility for Catalog Information. Students are held individually responsible for the information contained in the catalog. Failure to read and comply with college regulations will not exempt a student from such personal responsibility.

*One lab science course is required and the second class may be either a lab science or a mathematics course.

†History 111 and History 112 may be included in either Group I or Group II but may not be counted in both groups.

STUDENT SERVICES

The office of Dean of Students provides services which contribute to the social, cultural, and physical growth of the student, as well as aiding him with his academic program. These services include counseling, pre-enrollment advising, registration, housing, health services, orientation, testing, college and high school articulation, academic advising, educational and career information, financial aids, placement, and college activities

Education, Career and Personal Counseling. Professionally trained counselors are available in the Counseling Center (K wing) to give assistance in educational, career and academic planning as well as with problems of a personal nature. Counselors are available by appointment or on a walk-in basis: Monday through Friday 8:30 a.m. until 4:30 p.m. and Monday through Thursday evenings from 6:00 p.m. to 8:30 p.m.

The first contact with a counselor is generally previous to a student's first class enrollment. At that time, the student's career and educational plans are discussed and the appropriate choice of courses is made. After enrollment, counselors are available as often as necessary to help students in learning about their aptitudes and interests, to further develop vocational plans, to aid in increasing self-understanding, and to assist in solving personal concerns. This is usually done through individual interviews, but sometimes group sessions can be helpful in many of these areas.

Resource materials, such as college catalogs and vocational literature are available in the Counseling Center, Career Information

Center, and in the College Library. The counseling staff also provides special group offerings in vocational exploration, self-defeating behavior and other task oriented groups upon a request basis. Details may be obtained through the Counseling Center.

Testing. To assist the student toward a better understanding of himself and to aid the counselor in diagnosing and understanding the student's current state of development more adequately, many kinds of tests and inventories are available. These tests provide for assessment of interests, abilities, achievement, aptitudes, personality traits, and personal-social adjustment.

At this time, Delta does not require testing for admission or placement, but is a testing center for the American College Testing Program (ACT).

Delta is also a testing center for the Automobile Mechanic Certificate Program, Dental Assisting Aptitude Testing Program (DAAT), Dental Hygiene Aptitude Testing Program (DHATP), General Educational Development Test (GED), the College Level Examination Program (CLEP). The GED is designed for persons who have not received a high school diploma and who seek certain programs of study, employment, or individual achievement. The CLEP tests afford students and prospective students the opportunity to demonstrate their academic proficiency at the freshman-sophomore college level in various areas and in specific subjects.

Orientation Services. An orientation program is conducted during the spring and summer and early in each semester as a means of introducing new students to college life and academic study. Through this program students are acquainted with the facilities of the college and introduced to academic and non-academic activities. College standards and policies are discussed in an orientation assembly and students are encouraged to participate in all phases of college activities.

As a means of orientation to academic study beyond Delta College, a liaison with the four-year institutions is maintained in order to provide students with the necessary information to prepare for transfer to a baccalaureate degree program. In the sophomore year, interviews with senior college representatives for assistance in application for transfer are scheduled.

Registration. Registration procedures for Fall, Winter, and Spring-Summer Semesters are described in the Class Schedule each semester. Information can also be secured from Student Services or the Registration Center.

Health Services. Delta College maintains a health center which is equipped to provide first aid treatment and relate to minor health problems. A registered nurse is on duty from 8:00 a.m. to 10:00 p.m. on school days, from 8:00 to 12:00 a.m. on Saturdays. Health and accident insurance is available at a low rate. All international and out-of-state students are required to have health insurance.

Student Housing. The college operates two residence halls for full-time students; North Hall for men and South Hall for women. Each Hall houses 80 students in 40 double rooms. Charges include room and board, and meals are taken in the College Commons.

Applications for residence hall accommodations may be obtained from the Housing Office. Students requiring assistance in finding private housing should also contact the Housing Office.

FINANCIAL AID

Financial aid at Delta College consists of loans, part-time jobs, grants and scholarships. These various aids are awarded to those students determined to have financial need. Awards are made either singly or in a package as necessary to meet the required educational costs of attendance.

Each applicant will be considered for any and all types of aid for which he may be eligible.

Application Procedure

All students should apply for assistance under the federally funded Basic Educational Opportunity Grant Program (BOG). Applications are available from high school counselors, Delta College, post offices and other public agencies.

High school seniors are urged to apply for the State of Michigan Competitive Scholarship. Information is available from high school counselors.

Action can be taken on an application for financial aid only after the student has received notice of admission (including payment of the \$10 matriculation fee).

A Parents Confidential Statement must be filed with College Scholarship Service in order for the aid application to be complete.

Financial Aid Programs

Basic Educational Opportunity Grant (BOG). This federally funded program assists students with considerable financial need who are United States citizens. Each student is entitled to a maximum grant of \$1,400 per year less what is expected in the form of a family contribution. The contribution is determined from financial information submitted by the student and his family and from criteria established by the Office of Education. Special applications are available from high school counselors or the Office of Financial Aid at Delta College.

Michigan Competitive Scholarships. These awards offer tuition assistance on an annual, renewable basis. Candidates must demonstrate financial need and qualify as a result of their performance on the American College Test. High school students should contact their counselor for specific information and application forms well before October 1 of their senior year.

Delta Scholarships. Board of Trustees Scholarships provide tuition and fees for four semesters of attendance. One scholarship is available to a selected senior from each high school in the college district. Various other privately funded scholarships are awarded to students meeting qualifications established by sponsoring organizations.

College Work-Study Program. The purpose of this federally funded assistance is to provide students with financial aid through part-time employment. Students with demonstrated financial need may work either on the Delta campus or at one of the participating public service agencies off-campus. During the period the college is in session, a student usually works 15 hours per week at various wage rates dependent upon the position. During vacation periods, 40 hours per week is allowed.

National Direct Student Loan. A federally funded assistance program available to students with demonstrated financial need who are United States citizens and making normal academic progress.

No interest accrues nor is a repayment required while the borrower is at least a half-time student or serving full-time in the Armed services, Peace Corps or Vista. Interest at 3% per year is charged beginning nine months after the borrower leaves school. A minimum of \$30 per month repayment is required following termination of student status. Partial or full cancellation of the loan principal and interest is granted for certain teaching or military service.

Guaranteed Student Loans. This federal program, operated by the Michigan Higher Education Assistance Authority, local banks and credit unions, provides long-term, post-graduate loans to students attending Delta.

If the student borrower meets certain financial need criteria, the federal government will pay the total interest charge while he is in school. Thereafter, simple interest at 7% is charged during the borrower's repayment period. Applications are available from those lending institutions participating in the program or Student Financial Assistance Services, Box 420, Lansing, Michigan 48910. In addition to this application form, students must provide a Parents Confidential Statement to the Delta College Office of Financial Aid.

Nursing Student Loans. Such assistance is similar to the National Direct Student Loan insofar as eligibility and repayment are concerned. The basic difference is that such aid is limited to nursing students at Delta College. Partial or full cancellation of loan principal and interest is possible for full-time employment in certain fields of nursing training or service in designated public or non-profit institutions or agencies. Interest at 3% per year is charged beginning nine months after the borrower ceases carrying at least a half-time class load in the nursing curriculum.

Other Financial Aid

Certain students may be eligible for other assistance, such as:

Law Enforcement Program (LEEP) grants up to tuition costs are available to employed law enforcement officers who wish to further their education. Enrollment may be either full-time or part-time. The amount of the grant may not exceed direct educational costs.

Vocational Rehabilitation, a state agency, provides services and financial assistance for educational expenses to students with certain disabilities. Further information is available by contacting the local Vocational Rehabilitation Service office.

Social Security benefits are continued to full-time students age 19 to 21 of a parent who retired, died or became disabled. Eligible students should contact the Social Security Administration office in their home community. Social Security claims are processed by the Registrar's Office. Contact that office for specific information.

Veterans Administration benefits provide an educational allowance to children of deceased or disabled veterans if the cause was service-connected. Application can be obtained from the student's local Veterans Administration office or by contacting the Office of Financial Aid at Delta College.

Michigan Public Act 245 provides tuition waivers to full-time students who can establish financial need and are children of deceased or disabled veterans. An application and further information is available from the Michigan Veterans Trust Fund, 300 E. Michigan Avenue, Lansing, MI 48933.

Veterans G.I. benefits provide educational benefits for eligible servicemen. Specific information and forms are available from the Registrar's Office.

Selective Service. The Registrar's Office is responsible for notifying various Selective Service Boards concerning the status of their students. Contact the Registrar's Office for additional details.

On-Campus Part-Time Employment. The Office of Financial Aid will assist all students who are seeking on-campus part-time employment.

SCHOLARSHIPS

Funds provided through the generosity of interested individuals, firms and organizations make possible the recognition of superior academic achievement. Recipients are selected from those students who have financial need, strong academic record and meet any other particular requirements as specified by the sponsor.

The following donors have established scholarships at Delta College:

1974-75 Scholarships

Alpha Delta Kappa—Alpha Pi Chapter	Fred Dulmage
Allstate Foundation	Gerity Broadcasting
Alvin Bentley	Helen Mackey
Amalgamated Clothing American Association of University Women	Hellenic Women's Society of Saginaw
American Business Women's Association	Herbert Doan
American Legion Auxiliary	Home Builders Association
Bay City Business and Professional Women	Huff Memorial
Bay City Lions Club	Job's Daughters
Bay City Panhellenic	Junior Achievement of Midland
Bay City Zonta	Kim Parson's Memorial
Central High School Ecclesia	Lakehead Pipeline Company
Chemical Bank—TV Auction	Margaret Adams
Chicano	Michigan Professional Ceramics
Consumerettes	Midland Police Officers Association
Dan E. Karn Memorial	Newcor, Inc.
Delta College Board of Trustees	Ogemaw Heights Varsity Club
Delta College Business Faculty	Osthelder Park
Delta College Humanities Division	Paul Robeson
Delta College TV Auction— Leeson	Pioneer Club
Delta College TV Auction— Weber	Pit and Balcony
Delta Women's Club	President's Award
Donald B. Carlsen Family Award	Saginaw Area Educational Secretaries
Dow Chemical Company— Clerical	Saginaw Business and Professional Women
Dow Chemical Company— Law Enforcement	Saginaw Insurance Agents
Dow Chemical Company— Pre-Engineering	Saginaw Junior Reading
Eastern Star of Michigan	Saginaw Legal Secretaries
Farm and Garden Association	Saginaw Osteopathic Hospital
Frances Goll Mills	Saginaw Osteopathic Hospital Auxiliary
	Seth Babcock
	Strosacker
	Tri-County Center
	Wickes Engineering Materials

Additional fund where the income results in student assistance include: the Gilbert A. Currie, Sr., Otto Pressprich, Herbert Doan, and Alden B. Dow Endowment Funds.

PLACEMENT SERVICES

Full-time Employment. The Placement Office assists graduating sophomores, alumni, students completing certificate programs, and all other students seeking full-time positions. Students may

register with the office, and there is no charge for this service.

While placement in suitable positions cannot be guaranteed to students and alumni, every effort will be made to give the student as much assistance as possible. During the winter semester, many industrial and business employers send representatives to the campus to interview students. Interviews are then arranged for interested students.

Part-time Employment. The Placement Office serves as a clearing house for local businesses and industries seeking part-time help. As soon as a part-time job is received by the office, it is posted on the "Job Market" bulletin board outside the office. Students can then obtain the necessary information from the board to contact the employer for an interview.

Work Related Program. Many curricula offer opportunities for students to accept jobs directly related to their field of study. Jobs of this nature may be arranged on either a half-day basis or on an alternating semester basis. Application may be made through the Placement Office. Business students interested in cooperative education should contact one of the Business Division Cooperative Education Coordinators.

OTHER FACILITIES

Book Store. A modern well-equipped book store, located on the court level adjacent to the Commons, serves students, faculty, and other interested individuals. This facility is open daily.

The Commons. Food services, lounge facilities, and meeting rooms are provided in the Commons area which is located on the court level at the north end of the building.

Bus Transportation. Bus transportation from Bay City, Saginaw and Midland, and return is provided by a private operator. This service allows the student to arrive early each day in time for class and return home at the close of classes.

Parking. Ample parking facilities adjacent to the College building are provided for students, faculty and guests. Regulations for parking are provided by the Security Office and explained in detail in the Student Handbook.

STUDENT ACTIVITIES

Philosophy. Delta College as an institution of higher education has a commitment to assist its students to develop in body, mind and spirit. Recognizing a need for a complete and fulfilling educational program, the College has included in addition to its full academic

offerings a complete co-curricular activity program. In establishing such a program the College offers students the opportunity to participate as active leaders in the college community.

Co-curricular activities is in allegiance with the educational program of the College; for student activities is a "laboratory" of "creativeness". It is designed to assist young adults in developing their talents in group leadership, music, theatre and/or writing, as well as giving them a sense of total social enjoyment and responsibility.

Through the activities program, students are given a chance to better understand themselves, their fellow students, the faculty and the administration. Delta College has encouraged a variety of student organizations, professional associations and many interest groups, whereby students may be able to develop their talents and interests of their own choosing.



The Student Center was built for the specific purpose of creating an area for the student's enjoyment and relaxation. All students are welcomed and encouraged to utilize the Student Center facilities.

"The Student Activities Office and the Volunteer Office are housed in this facility along with the Child Care Center."

Organized Activities. Many campus events and activities are programmed through the Student Activities Office. Various student groups (including our 25 clubs) presents programs in addition to the Activities Board which suggests activities which may then be coordinated through the Student Activities Office. The funds for such events are appropriated by the Allocations Board from the Student Activity Fee.

Collegiate. This, the official bi-weekly award-winning student newspaper, is entirely student produced. It is supported by the students' activity fees as well as advertising revenue.

Social and Cultural Events. Delta College has several outstanding musical groups including the Delta College Singers (selected from the choir), and the Wind Ensemble group. Traditionally they perform at the Christmas and Spring Concerts. There is also the student theatrical group known as the Delta Players which perform several plays each year.

PROGRAM OF STUDY

TRANSFER PROGRAMS

Statewide College and University Articulation Agreement. Delta College has become a member of the Statewide Articulation Agreement between community colleges and senior private or public colleges and universities of Michigan. The purpose of this Agreement is to ensure that a student who completes an Associate of Arts or Science Degree at a community college will have satisfied the general education requirements of the first two years of study for the following college agreement members:

Albion
Alma
Aquinas
Cleary
Detroit College of Business
Eastern Michigan
Ferris
General Motors Institute
Grand Valley
Hope
John Wesley
Lake Superior
Lawrence Institute
Madonna
Marygrove
Michigan State
Nazareth
Northern Michigan
Northwood Institute
Oakland
Olivet
Saginaw Valley
Shaw
Siena Heights
Western Michigan

Group Requirements of Selected State Colleges and Universities.

A variety of curricula, or programs of study, are available to Delta College students. Generally, these curricula are two years (four semesters) in length and culminate in the awarding of the associate degree; however, a few are less than two years and some of the health careers and technician programs are five and six semesters in length.

Transfer curricula provide the first two years of study needed to fulfill requirements of senior colleges and universities awarding the baccalaureate degree. Delta College maintains up-to-date information and continuous liaison with the senior colleges in Michigan regarding the requirements for transfer. Curricula sheets for the

state colleges and universities are maintained in the Counseling Office and may be obtained at any time. A file of both state and out-of-state catalogs is also available. Students are advised to use both the curricula sheets and the catalogs in determining their course schedules. Counselors also are available to advise students on transfer problems.

Programs designed for transfer to Baccalaureate Degree Granting Institutions.

ARTS, HUMANITIES & SOCIAL SCIENCE

Liberal Arts
Journalism/English
Art
Music
Sociology/Social Work
Psychology
Drama/Theater/Speech
History
Political Science/Pre-Law
Home Economics
Foreign Language
Criminal Justice/Police Adm.

BUSINESS

Business Administration
Computer Science/Data Processing

EDUCATION

Business Education
Art Education
Music Education
Industrial Arts Education
Elementary Education
Physical Education
Secondary Education
Special Education
Pre-School Education

HEALTH SCIENCES

Dental Hygiene
Medical Technology
Mortuary Science
Pre-Nursing
Occupational Therapy
Pharmacy
Physical Therapy
Respiratory Therapy
Physicians Assisting
Dietetics

MEDICAL

(Pre-Professional)
Pre-Medicine and Osteopathy
Pre-Optometry
Pre-Dentistry
Pre-Veterinary

SCIENCE

Engineering
Forestry/Natural Resources
Agriculture
Biology
Chemistry
Mathematics/Physics
Conservation
Architecture & Design

BASIC REQUIREMENTS FOR TRANSFER TO STATE FOUR-YEAR COLLEGES AND UNIVERSITIES.

Requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program

in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer.

CENTRAL MICHIGAN UNIVERSITY

- Group I: English, Speech, 12 Sem Hrs
Journalism, Religion, Philosophy,
Foreign Language
English 111
Speech 112
Electives: 6 sem hrs. from
any in Group I. (English 112 is
an elective in this group.)
- Group II: Science 12 Sem Hrs
Biology 111 or Health
Education 171
Electives: 9 sem. hrs., other
than psychology, and must
include Physical Science
type classes.
- Group III: Social Sciences 12 Sem Hrs
Economics, Geography, History,
Political Science, Sociology
Note: Psychology is not included
in group unless student
is major or minor.
- Group IV: Physical 4 Sem Hrs
Education
Activity classes (two
needed at Delta College
for graduation)

EASTERN MICHIGAN UNIVERSITY

- Group I: Language and 6-9 Sem Hrs
Literature
English 111
Speech 112
Electives from English,
Literature and Foreign
Language
- Group II: Science 10-12 Sem Hrs
Biological Sciences, Math,
Physical Sciences (in-
cluding Geography 111),
Psychology 211
Note: At least one laboratory
science and math, or two
laboratory science classes.
- Group III: Social Science 9-12 Sem Hrs
Political Science 103 or 111,
and one year sequence from
Economics, History 111,
112, Geography,
Sociology
- Group IV: Humanities 11-12 Sem Hrs
Art 151, 152, Music 111,
Theatre 215-217
Also Philosophy, Religion,
or Intermediate Foreign
Language.
- Group VII: Physical 4 Sem Hrs
Education
Activity classes (two needed
at Delta College for
graduation)

FERRIS STATE COLLEGE

- Group I: English 6 Sem Hrs
English 111, 112
- Group II: Humanities 6 Sem Hrs
Art, English Literature,
Foreign Language, History,
Humanities, Music,
Philosophy
- Group III: Behavioral 12 Sem Hrs
Sciences
Economics, Geography
(except 111), Political
Science, Psychology,
Sociology
- Group IV: Math-Science 6 Sem Hrs
Astronomy, Biology,
Chemistry, Geography 111,
Geology, Math, Physical
Science, Physics
- Group V: Physical 2 Sem Hrs
Education
Activity classes (two)

BASIC REQUIREMENTS FOR TRANSFER TO STATE FOUR-YEAR COLLEGES AND UNIVERSITIES.

Requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program

in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer.

GRAND VALLEY STATE COLLEGE

Group I: Writing Skills 6 Sem Hrs
English 111, 112

Group II: Arts 8-16 Sem Hrs
Art 151, 152, Foreign Language,
Music 111, 211, Theatre
215-217, Physical
Education* (not to exceed
5 sem. hrs.)

*Includes activity classes and
HE 161

Group III: Humanities 8-16 Sem Hrs
English Literature, History,
Philosophy

Group IV: Social Sciences 8-16 Sem Hrs
Economics 221, 222, Political
Science, Psychology,
Sociology

Group V: Natural Sciences 8-16 Sem Hrs
Biology, Chemistry,
Geography 111, Geology,
Math, Physical Science,
Physics

LAKE SUPERIOR STATE COLLEGE

Group I: English Composition 6 Sem Hrs
English 111, 112 or
English 111, 113

Group II: Social Sciences 8 Sem Hrs
Economics, History (including
111, 112), Geography (except
111), Political Science,
Psychology, Sociology

Group III: Natural Sciences 8 Sem Hrs
One semester of Physical Science
and one semester of Biological
Science

Group IV: Humanities 8 Sem Hrs
Art 151, 152, Music 111,
English Literature,
Philosophy

Group V: Physical Education 4 Sem Hrs
Activity class (two needed at
Delta College for
graduation)

Group VI: American Government 3 Sem Hrs
Political Science 103 or 111

MICHIGAN STATE UNIVERSITY

Group I: American Thought & Language 6 Sem Hrs
English 111, 112

Group II: Natural Sciences 8 Sem Hrs
One semester of Physical
Science and one semester of
Biological Science

Group III: Social Science 8 Sem Hrs
Economics, Geography 105,
113, 211, Political Science,
Psychology, Sociology

Group IV: Humanities 8 Sem Hrs
English Literature, History,
Music 111, Art 151, 152,
Philosophy

MICHIGAN TECHNOLOGICAL UNIVERSITY

Group I: English Composition 6 Sem Hrs
English 111, 112

Group II: Science 8 Sem Hrs
Any two laboratory sciences
from the following: Biology,
Chemistry, Geography 111,
Geology, Physical Science,
Physics

Group III: Social Science 8 Sem Hrs
Political Science 103 or 111,
and elective from the following:
Economics, History,
Geography (except 111),
Psychology, Sociology

Group IV: Humanities 8 Sem Hrs
Art 151, 152,
Literature, Music 111,
Philosophy

Group V: Physical Education 2 Sem Hrs
Activity classes (two)

BASIC REQUIREMENTS FOR TRANSFER TO STATE FOUR-YEAR COLLEGES AND UNIVERSITIES.

Requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program

in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer.

NORTHERN MICHIGAN UNIVERSITY

- Group I: Language Studies 8 Sem Hrs
 English 111, 112
 Speech 112
- Group II: Humanities 8 Sem Hrs
 Art 151, 152, Music 111,
 English Literature, Philosophy
- Group III: Natural Sciences 8 Sem Hrs
 and Math.
 Any two laboratory sciences
 from the following: Biology,
 Chemistry, Geography 111,
 Geology, Math, Physical
 Science, Physics
- Group IV: Social Sciences 8 Sem Hrs
 Political Science 103 or 111,
 and electives from the follow-
 ing: Economics, History,
 Geography (except 111),
 Psychology, Sociology

OAKLAND UNIVERSITY

- Group I: Symbolic 3-12 Sem Hrs
 Systems
 Data Processing 239, 243, 245,
 246, 250, 251, Foreign
 Languages, Math 108-114,
 119-264
- Group II: Letters 3-12 Sem Hrs
 English 211-282, History
 111-277, Philosophy 211-221
- Group III: Arts 3-12 Sem Hrs
 Art 105-280, Music 101-212,
 RTV 154, Speech 215-217
- Group IV: Social Sciences 3-12 Sem Hrs
 Economics 111-280, English
 115-116, Geography 105,
 113-245, RTV 149-153,
 156-251, Speech 112-214, 221,
 Political Science 103-227,
 Sociology 121-231
- Group V: Area Studies
 (None available at Delta College)
- Group VI: Natural 3-12 Sem Hrs
 Sciences
 Allied Health, Biology,
 Chemistry, Geography 111,
 Geology, Physical Science,
 Physics
- Group VII: General 6 Sem Hrs
 Education
 English 111, 112

SAGINAW VALLEY COLLEGE

- Group I: Basic Skills 6 Sem Hrs
 English 111, 112
 Reading (fulfilled by a Social
 Science course)
 Math (fulfilled by any Math,
 Accounting, Chemistry, or
 Physics course)
- Group II: Humanities 8 Sem Hrs
 Art (except 113), Foreign
 Languages, English (except
 111, 112), Music (except 121),
 Philosophy, Theatre
- Group III: Science 8 Sem Hrs
 Any two laboratory sciences from
 the following: Allied
 Health, Biology, Chemistry,
 Geography 111, Geology,
 Physical Science, Physics
- Group IV: Social Science 8 Sem Hrs
 Economics, Geography (except
 111), History, Law Enforce-
 ment 210, 250, 271, Political
 Science, Psychology, Sociology

BASIC REQUIREMENTS FOR TRANSFER TO STATE FOUR-YEAR COLLEGES AND UNIVERSITIES.

Requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program

in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer.

UNIVERSITY OF MICHIGAN

- Group I: English 6 Sem Hrs
Composition
English 111, 112
- Group II: Foreign Language 0-16 Sem Hrs
Must show fourth semester proficiency in one foreign language. (See LS of A catalogue)
- Group III: Social Sciences 9-12 Sem Hrs
Must have work in at least two departments, including two courses in one department.
Economics, Geography (except 111), History, Political Science, Psychology, Sociology
- Group IV: Natural Sciences 12 Sem Hrs
Must have work in at least two departments, including two courses in one department.
Biology, Chemistry, Geology, Physics
- Group V: Humanities 9-12 Sem Hrs
Must have work in at least two departments, including two courses in one department.
Art 151, 152, English Literature, Music 111, 211, Philosophy

WESTERN MICHIGAN UNIVERSITY

- Group I: Humanities and Fine Arts 6-8 Sem Hrs
English 111, 112, Art 151, 152
English Literature, Music 111, 112, 211, 212, 130, Foreign Language, History 111, 112, Philosophy, Speech
- Group II: Social Sciences 6-8 Sem Hrs
Economics 111, 211, 212, Geography (except 111), History (except 111, 112), Political Science, Sociology
- Group III: Science 6-8 Sem Hrs
Allied Health 101-103, Biology 111, 112, 151, 161, Chemistry 100, 101, 111, 112, 122, Geography 111, Geology 111, 112, Math 121, 122, 151, 161, 162, 261, 262, Physical Science, Physics
- Group IV: Non-Western World 1 course
(Usually taken at WMU)
Geography 115, 222
History 210

WAYNE STATE UNIVERSITY

- Group I: English 6 Sem Hrs
English 111, 112
- Group II: Foreign Language 0-16 Sem Hrs
Must show fourth semester proficiency in one foreign language. (See WSU catalogue.)
- Group III: Natural Science 12 Sem Hrs
Must have work in at least two departments, including two courses in one department.
Biology, Chemistry, Geology, Physical Science, Physics
- Group IV: Social Science 12 Sem Hrs
Must have work in at least two of the following departments:
Economics, Geography, History, Philosophy, Political Science, Sociology
- Group V: Humanities 12 Sem Hrs
Must have at least two courses from one of the following departments: Art, English Literature, Music, Speech, Theatre (Also, see WSU catalogue.)

GENERAL REQUIREMENTS

General requirements for certain curricula are listed in the following paragraphs. These requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer. An example of some of these curricula sheets are shown for these five:

- Business Administration
- Elementary Education
- Secondary Education
- Engineering
- Liberal Arts

Curriculum sheets are available for the following transfer programs: Architecture and Design, Landscape Architecture, Hotel Management, Art, Business, Industrial Arts, Music, Physical Education, Special Education, General Engineering, General Academic, Library Science, Pre-Journalism, Pre-Law, Social Work, Dental Hygiene, Medical Technology, Mortuary Science, Pre-Nursing, Pre-Dentistry, Occupational Therapy, Pre-Medicine, Pre-Optometry, Pre-Pharmacy, Pre-Veterinary, Physical Therapy, Public Health, Agricultural, Conservation, Forestry and Chemistry.



CAREER PROGRAMS

The following Associate Degree curricula require four or more semesters to complete.

BUSINESS CAREERS

- Accounting
- Air Line Hostess—Clerical Management
- Data Processing
- Finance and Banking
- Marketing
- Medical Assistant
- Real Estate
- Retail Mid-Management**
- Secretarial (General)
- Chemical Secretarial
- Legal Secretarial
- Fashion:
 - Option 1: Clothing, Fashion merchandising, and display
 - Option 2: Interior Decoration

ALLIED HEALTH CAREERS

- Dental Assisting
- Nursing (RN Program)
- Radiologic Technology (X-Ray)

PUBLIC SERVICE CAREERS

- Broadcasting
- Law Enforcement
- Social Health Services Assistant
- Urban Professional Assistant

TRADE—TECHNICAL CAREERS

- Architectural Technology
- Automotive Service Technology
- Electronic Technology
- Industrial Supervision
- Instrumentation Technology
- Mechanical Engineering Technology
- Mechanical Design Technology
- Residential Construction Technology

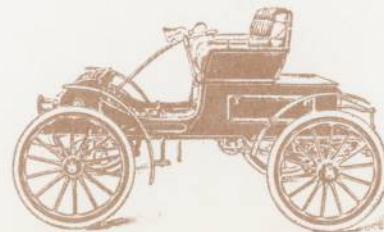
*All curricula listed (except Air Line Hostess) under Business Education have co-operative opportunities with Business and Industry in the Saginaw Valley.

**Prior to entering this curriculum students must have the approval of the Distributive Education Coordinator.

***Students entering the Industrial Supervision Curriculum must be approved by the Company for which they are employed.

The following certificate level curricula require from two to four semesters to complete.

- Accounting
- Automotive Service (Mechanics)
- Automotive Service Specialist
- Drafting & Design
- Machine Calculation
- Secretarial
- Residential Construction Tech.
- Labor Relations Specialist





CAREER PROGRAMS AND COURSE DESCRIPTIONS

BUSINESS CAREER PROGRAMS

The Business Education Division is vocational in its aims and objectives. It provides the following educational opportunities:

- I. For an Associate Degree leading to a Baccalaureate Degree in
 - (a) Business Administration or Applied Science, for employment in such fields as accounting, advertising, banking, finance, business law, marketing, personnel, real estate, secretarial, and transportation.
 - (b) Business Education in preparation for teaching office, general business, or distributive education courses; and with additional degrees, for teaching, coordinating, or administrative duties in colleges and universities.
- II. For Business Careers, with an Associate Degree in Business Studies.

Business subjects and related courses in communications, mathematics, science, economics, history, government, and physical education, prepare the student for employment in business and commercial occupations. There are excellent positions open to community college graduates. Courses of study are planned in areas where job opportunities clearly exist. These offerings are modified from time to time as the needs of the communities change. Emphasis is placed on assisting the student in choosing a curriculum to meet vocational requirements, in accordance with his interest and aptitudes. Some suggestions are printed here for general information; however, each student plans, with his adviser, a sequence of studies to fit his individual needs.

Cooperative Occupational Education. This is a method by which a student may apply learned skills, principles, and concepts in the role of an actual paid on-the-job learning worker. The selected training station supervisor works with the student to help develop occupational competence in an occupational area that is directly related to the student's career goal and the curriculum that he or she has chosen. This learning experience of at least 15 hours per week in a real-life job and one hour per week in a co-op class is supervised by a state certified coordinator. Three credits per semester are earned by the co-op student for successfully meeting all requirements.

Students who are interested in cooperative education may make formal application in the cooperative education office.

In addition to these two regular groups, the Business Education Division welcomes those students who do not wish to complete degree requirements, who desire to take a single course, or a series of courses, in the Day or Evening College, to fulfill their particular requirements. Many students find themselves in circumstances that do not permit a full two-year program.

BUSINESS CERTIFICATE CURRICULA

These programs designed especially for the student who plans to attend college for only one year, give the technical knowledge necessary for entry into the business field. Students completing these programs have been placed in attractive positions. The following courses are recommended but may be changed to meet individual needs and interests.

ACCOUNTING CURRICULUM

Students completing this program have been placed in clerical positions with responsibilities for records in payroll, accounts receivable, accounts payable, time-keeping and general office. Other opportunities exist for posting machine operators and bookkeeper/accountant placement.

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Acct 111 (01111) or Acct 112 (01112) Introductory	4
*Bus Mach 170 (17170), 171 (17171), or 172 (17172)	
Beg., Refresher, or Inter. Typewriting	2,1,3
Bus Mach 175 (17175) Machine Calculation	2
Econ 111 (81111) Principles of Economics	3
Gen Bus 110 (12110) Business Computation	3
	17,16,18

Second Semester

Gen Bus 152 (12152) Business Communications	3
Acct 112 (01112) Introductory or Acct Elective	4,3
Gen Bus 255 (12255) Office Administration	3
Econ 114 (81114) Consumer Economics	3
Data Proc 113 (07113) Introduction	3
	16,15

*See course descriptions

MACHINE CALCULATION CURRICULUM

Certificate Program

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Acct 101 (01101) Applied Accounting	4
*Bus Mach 170 (17170), 171 (17171), or 172 (17172)	
Beg., Refresher, or Inter. Typewriting	2,1,3
Bus Mach 175 (17175) and 176 (17176) Machine Calculation ...	4
Gen Bus 110 (12110) Business Computation	3
	16,15,17

Second Semester

Gen Bus 152 (12152) Business Communications	3
Bus Mach 172 (17172) or 273 (17273) Inter. or Advanced Typewriting	3
Bus Mach 274 (17274) Voice Transcription	2
Gen Bus 157 (12157) Filing and Records Management	3
Sec Sci 261 (15261) Secretarial Practices	3
Speech 112 (46112) Fundamentals of Oral Communications	3
	17

*See course descriptions

CLERK-TYPIST CURRICULUM

Certificate Program

Among the job opportunities to be found upon completion of the Clerk/Typist Curriculum are: Data Typist, General Clerk, General Typist, File Clerk, Mail Clerk, Machine Operator (adding, duplicating, calculating, etc.).

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Gen Bus 153 (12153) Introduction to Business	3
Bus Mach 170* (17170) Beginning Typewriting	2
Math 100** (58100) Pre-Algebra Mathematics	3
Sec Sci 110 (15110) Clerical Procedures I	3
	13

Second Semester

Bus Mach 175 (17175) Machine Calculation	2
Bus Mach 172*** (17172) Intermediate Typewriting	3
Psych 101 (86101) Applied Psychology	3
Sec Sci 111 (15111) Clerical Procedures II	3
Co op Ed 121 (05121) Cooperative Office Education or Sec Sci 100 (15100) Office Simulation	3
	14

Required:

Business	
General Business	6
Business Machines	7
Clerical Procedures	6
Cooperative Office Education OR Office Simulation	3
Other	
Mathematics	3
Psychology	3
Total Semester Hours	27

*Bus Mach 172 may be substituted if equivalent skills demonstrated.

**Gen Bus 110 may be substituted if equivalent skills demonstrated.

***Bus Mach 273 may be substituted if equivalent skills demonstrated.

Any exceptions to the above curriculum must be approved by the Division Chairman.

STENOGRAPHIC CURRICULUM

Certificate Program

Among the job opportunities to be found upon the completion of the Stenographic Certificate Program are: Receptionist, Transcribing Machine Operator, Stenographer, Secretarial Assistant, Correspondence Clerk.

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communication	3
Gen Bus 153 (12153) Introduction to Business	3
Bus Mach 170* (17170) Beginning Typewriting or 171 (17171) Refresher Typewriting	2,1
Sec Sci 161* (15161) Beginning Shorthand	4
	12,11

Second Semester

Bus Mach 175 (17175) Machine Calculation	2
Psych 101 (86101) Applied Psychology	3
Bus Mach 172 (17172) Intermediate Typewriting or Bus Mach 273 (17273) Advanced Typewriting	3
Sec Sci 162* (15162) Intermediate Shorthand	4
	12

Third Semester

Bus Mach 274 (17274) Voice Transcription and Copying Machine Procedures	2
Sec. Sci 263 (15263) Dictation and Transcription	4
Gen Bus 157 (12157) Filing and Records Management	3
Co op Ed. 121 (05121) or Sec Sci 100 (15100) Office Simulation	3
	12

Required:

Business	
General Business	9
Business Machines	9
Secretarial Science	12
Cooperative Office Education OR Office Simulation	3
	33
Other	
Psychology	3
*Total Hours	36

*Students entering with equivalent skills in typewriting and shorthand may waive Bus Mach 170 or 171, Sec. Sci 161, Sec. Sci 162; however a minimum of 30 semester hours will be required for a certificate. See course descriptions.

Suggested Electives: Acctg. 101
 Bus Mach 273
 Data Proc 132 or Data Proc 133
 Gen Bus 110
 Sec Sci 264
 Speech 112

Any exceptions from the above curriculum must be approved by the Division Chairman.

ACCOUNTING CURRICULUM

Associate Degree Program

This curriculum, designed especially for the student who plans to attend college for only two years, gives the technical knowledge and skills necessary for entry into the business field. Students completing this program have found financially rewarding employment in payroll, general, cost, government and tax accounting offices. Opportunities are available in industry, wholesale and retail merchandising, and public accounting. The following courses are recommended but may be changed to meet individual needs and interests.

First Semester	Sem Hrs
Acct 111 (01111) Introductory Accounting or Acct 211 (01211) Prin of Accounting	4
Gen Bus 151 (12151) Business Communications	3
Bus Mach 170* (17170) Beginning Typewriting or Bus Mach 171* (17171) Refresher Typewriting	2,1
Gen Bus 153 (12153) Introduction to Business	3
Gen Bus 110 (12110) Business Computation	3
	15,14

Second Semester

Acct 112 (01112) Introductory Accounting or Acct 212 (01212) Prin of Accounting	4
Gen Bus 152 (12152) Business Communications	3
Bus Mach 175 (17175) Machine Calculation	2
Data Proc 133 (07133) Introduction to Data Processing	3
Elective	3
PE—Elective Activity	1
	16

Third Semester

Acct 223 (01223) Intermediate	4
Acct 213 (01213) Cost Accounting	3
Gen Bus 251 (12251) Business Law	3
Econ 111 (81111) Essentials of Economics	3
Elective	3
PE—Elective Activity	1
	17

Fourth Semester

Acct 215 (01215) Federal Tax Accounting	3
Gen Bus 255 (12255) Office Administration or**	3
Pol Sci 103 (85103) Introduction to American Government	3
Acct 224 (01224) Intermediate Accounting	4
Elective	3
	16

Required:

Business	
Accounting	22
Other	25
Total Business	47
Non-Business	5
State (Pol Sci)	3
Total Required	55
Electives	7
Total Semester Hours	62

Suggested Electives:

Non-Business

Speech 112—Fundamentals of Oral Communications; Math 108—Elementary Statistics; Psy 101—Applied Psychology; Econ 114—Consumer Economics

Business

Acct 217—Auditing Theory and Procedures; Data Proc 235—Data Processing Applications

**Dist Ed 245—Principles of Management

Gen Bus 157—Filing and Records Management; Gen Bus 252—Business Law

*Bus Mach 170 and 171 will be waived for those students passing the Dept. Proficiency Exam. See course descriptions.

*Bus Mach 170 may be waived for those students who already know the typewriter keyboard.

Any exception to the above curriculum must be approved by the Division Chairman.

AIRLINE HOSTESS—CLERICAL CURRICULUM

Associate Degree Program

Among the job opportunities to be found upon completion of the Airline Hostess Clerical Curriculum are: travel agency clerical positions and airline clerical stations in airports, hotels, banks, etc.

First Semester

	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Bus Mach 170* (17170) Beginning Typewriting or Bus Mach 171* (17171) Refresher Typewriting	2,1
or	
Bus Mach 172 (17172) Intermediate Typewriting	3

Gen Bus 110 (12110) Business Computation	3
Elective	7
PE—Elective—Activity	1
	16,15,17

Second Semester

Gen Bus 152 (12152) Business Communications	3
Bus Mach 175 (17175) Machine Calculation	2
Gen Bus 153 (12153) Introduction to Business	3
Elective	6,7
PE—Elective—Activity	1
	15,16

Third Semester

Psy 101 (86101) Applied Psychology	3
Data Proc 133 (07133) Introduction to Data Processing	3
Gen Bus 157 (12157) Filing and Records Management	3
Pol Sci 103 (85103) Introduction to American Government	3
Elective	3
	15

Fourth Semester

Acct 111 (01111) Introductory Accounting	4
Gen Bus 255 (12255) Office Administration	3
Speech 112 (46112) Fundamentals of Oral Communications	3
Electives	5
	15

Required:

Business	29
State and Local Required	5
Non-Business Required	6
Total Required	40

Electives

Total Semester Hours	62
----------------------------	----

Suggested Electives

Bus Mach 274—Voice Transcription and Copying Machine Procedures	
Econ 111—Essentials of Economics	
Econ 114—Consumer Economics	
HE 171—Health Education	
Geog 113—World Cultural Geography	
Psy 211—General Psychology	
Sec Sci 261—Secretarial Practices	
Soc 211—Principles of Sociology	
Soc 212—Social Problems	

Any exceptions to the above curriculum must be approved by the Division Chairman.

DATA PROCESSING CURRICULUM

Associate Degree Program

Delta College provides an opportunity for students to interact with computers in a variety of ways. Hands-on is provided on IBM 360-40 computer, on terminals, and peripheral equipment. Five programs of instruction, available on a day and evening basis, are designed to provide the student with the basic concepts of data processing and specialized training. The five areas of instruction are: Data Entry—Skill is developed in keypunching and verifying the punched card; Computer Operator—Hands-on is provided on the 360-40 computer, its peripherals, and other related equipment; Programmer—A wide choice of programming courses is available which provide the students with an opportunity to compile, test and debug their programs on Delta's equipment; Systems Analyst—Students interested in systems work should follow the two-year transfer program which provides many of the basic data processing courses as well as other basic requirements of a four-year program; In-Service Training—Employees working in the field of data processing will find a variety of data processing courses that they may take to broaden their background in data processing.

First Semester

Sem Hrs

Data Proc 133 (07133) Introduction to Data Processing	3
Acct 211 (01211) Prin of Acct or Acct 111 (01111) Intro to Acct ..	4
Math 119 (58119) Intermediate Algebra, Math 122 (58122) College Algebra, Math 151 (58151) Pre Calculus Math, or Gen Bus 110 (12110) Bus Computations	3,4
Gen Bus 151 (12151) Business Communications or Eng 111 (20111) Freshman Composition	3
Data Proc 179 (07179) Key punching or Business Elective	2,3
PE—Elective—Activity	1
	16,18

Second Semester

Data Proc 134 (07134) Machine Operation	3
Data Proc 243 (07243) Report Program Generator Programming	3
Acct 212 (01212) Prin of Acct or Acct 112 (01112) Intro to Acct ..	4
Gen Bus (12152) Business Communications or Eng 112 (20112) Freshman Composition	3
Math 108 (58108) Elementary Statistics or Math Elective	3
	16

Third Semester

Data Proc 235 (07235) Data Processing Applications	3
Data Proc 245 (07245) COBOL Programming	3
Econ 221 (81221) Principles of Economics or Elective	4
Speech 112 (46112) Fundamentals of Oral Communication or Elective	3
PE—Elective—Activity	1
	14

*See course descriptions

Fourth Semester

Data Proc 246 (07246) PL/I Programming	3
Pol Sci 103 (85103) Introduction to American Government	3
Econ 222 (81222) Principles of Economics or Elective	4
Psy 101 (86101) Applied Psychology or Business Elective	3
Elective	3
	16

Required for Associate Degree:

Data Proc*	18
Accounting	8
Math and/or Gen Bus 110	6
Gen Bus 151, 152 or Eng 111, 112	6
Pol Sci	3
Total Required	41

Suggested Electives:

Gen Bus 153—Introduction to Business
Acct 213—Cost Accounting
Data Proc 239—BAL Programming
Dist Ed 243—Marketing
Gen Bus 251, 252—Business Law
Dist Ed 245—Principles of Management

*Data Proc 250, 251 or 239 may be substituted for part of the Data Processing requirements by students who enter the program on advanced placement.

Any exceptions to the above curriculum must be approved by the Division Chairman.

FASHION CURRICULUM—CLOTHING FASHION MERCHANDISING

Associate Degree Program

Glamour, excitement, and hard work combine to make Clothing Fashion Merchandising one of the most appealing career areas. Good positions in retailing and manufacturing are available for the well-educated man or woman. This course of study can lead to careers in: Fashion buying, fashion merchandising, fashion design, bridal consultant, fashion show coordination, and fashion display.

First Semester

Sem Hrs

Gen Bus 151 (12151) Business Communications	3
Gen Bus 153 (12153) Introduction to Business	3
Art 115 (25115) Basic Design—2 dimensional	3
Fash 150 (11150) History and Dynamics of Fashion	3
Gen Bus 110 (12110) Business Computations	3
PE—Elective—Activity	1
	16

Second Semester

Gen Bus 152 (12152) Business Communications	3
Dist Ed 155 (09155) Textiles	3
Fash 170 (11170) Fundamental Theories of Fashion Design and Merchandising	3
Dist Ed 143 (09143) Advertising	3
Elective	3
PE—Elective—Activity	1
	16

Third Semester

Dist Ed 145 (09145) Salesmanship	3
Fash 151 (11151) Display	3
Psy Elective	3,4
Pol Sci 103 (85103) Introduction to American Government	3
Elective	3
	15,16

Fourth Semester

Fash Electives	3,4
Co-op Ed 125 (05125) Cooperative Distributive Education	3
Dist Ed 247 (09247) Retailing	3
Electives	6
	15,16

Spring Semester

Fash 250 (11250) Fashion Study in the Market (optional)	2
---	---

Required:

Business	27
General Education	11-12
Fashion Merchandising	12-13
Electives	12
Total	62-64

FASHION CURRICULUM—CLOTHING SPECIALIST

Associate Degree Program

A Clothing Specialist major within the Fashion Curriculum will prepare a student for occupations in retail fabric departments, with manufacturers of fashion accessories; or with community school clothing departments as instructors, sales personnel, consultants, and/or advisers in the fashion and fabrics areas.

First Semester

Sem Hrs

Gen Bus 151 (12151) Business Communications	3
Pol Sci 103 (85103) Introduction to American Government	3
Fash 150 (11150) History and Dynamics of Fashion	3
FF 110 (08110) Apparel Construction and Analysis	4
PE—Elective—Activity	1
	14

Second Semester

Gen Bus 152 (12152) Business Communications	3
Dist Ed 155 (09155) Textiles	3
Fash 170 (11170) Fundamental Theories of Fashion Design and Merchandising	3
FF 120 (08120) Apparel Tailoring	4
Electives	3
	16

Third Semester

Gen Bus 110 (12110) Business Computations	3
Speech 112 (46112) Fundamentals of Oral Communication	3
FF 210 (08210) Apparel Pattern Drafting and Design	4
FF 220 (08220) Advanced Apparel Tailoring	4
Electives	3
	17

Fourth Semester

Psych 101 (86101) Applied Psychology	3
Dist Ed 145 (09145) Sales or	
Dist Ed 247 (09247) Retailing	3
Coop Ed 125 (05125) Cooperative Distributive Education	3
FF 230 (08230) Applied Apparel Design and Construction	3
Electives	3
PE—Elective—Activity	1
	16

Required:

Business	24
Specialized courses	19
General Education	11
Electives	9
Total	63

FASHION CURRICULUM—INTERIOR DECORATION

Associate Degree Program

A course of study that will give you the skills to make space come alive... profitably! Men and women are equally successful in this field. Employment opportunities in Interior Decoration are numerous in such businesses as: Furniture stores, home decorator shops, carpeting stores, lighting and accessory stores, fabric shops, and department stores.

First Semester

Sem Hrs

Gen Bus 151 (12151) Business Communications	3
Gen Bus 153 (12153) Introduction to Business	3
Art 115 (25115) Basic Design—2 dimensional	3
Inter Decor 100 (10100) Introduction to Interior Decoration	3
Gen Bus 110 (12110) Business Computations	3
PE—Elective—Activity	1
	16

Second Semester

Gen Bus 152 (12152) Business Communications	3
Dist Ed 155 (09155) Textiles	3
Inter Dec 150 (10150) Decorating Interior Elements	3
Inter Dec 200 (10200) Space Analysis and Presentation	2
Elective	3
PE—Elective—Activity	1
	15

Third Semester

Dist Ed 145 (09145) Salesmanship	3
Inter Dec 210 (10210) Furniture	3
Dist Ed 143 (09143) Advertising	3
Pol Sci 103 (85103) Introduction to American Government	3
Electives	4
	16

Fourth Semester

Inter Dec 230 (10230) Applied Interior Decoration	3
Psychology Elective	3,4
Co-op Ed 125 (05125) Cooperative Distributive Education	3
Dist Ed 247 (09247) Retailing	3
Elective	3
	15,16

Spring Semester

Inter Dec 250 (10250) Market Trip in Interior Decoration (optional)	2
--	---

Required:

Business	27
General Education	11-12
Interior Decoration	12-13
Electives	12
Total	62-64

MANAGEMENT CURRICULUM

Associate Degree Program

Among the job opportunities to be found upon completion of the Management Curriculum are: Operating a service type business of your own; qualify for management training positions with retailers, wholesalers, and manufacturers; personnel mid-management positions; production control management; material handling supervisors; purchasing agents; office supervisors; traffic management; management positions with public utilities; insurance sales management positions; and municipal management positions.

First Semester**Sem Hrs**

Acct 111 (01111) Introductory Accounting	4
Gen Bus 151 (12151) Business Communications	3
Gen Bus 153 (12153) Introduction to Business	3
Bus Mach 170* (17170) Beginning Typewriting or Bus Mach 171* (17171) Refresher Typewriting	2,1
Electives	3
PE—Elective—Activity	1
	16,15

Second Semester

Acct 112 (01112) Introductory Accounting	4
Gen Bus 152 (12152) Business Communications	3
Data Processing (To be arranged)	3
Electives	6
	16

Third Semester

Gen Bus 251 (12251) Business Law	3
Dist Ed 245 (09245) Principles of Management	3
Pol Sci 103 (85103) Introduction to American Government	3
Electives	5
PE—Elective—Activity	1
	15

Fourth Semester

Dist Ed 143 (09143) Advertising	3
Gen Bus 255 (12255) Office Administration	3
Dist Ed 243 (09243) Marketing	3
Electives	6
	15

*Bus Mach 170 and 171 will be waived for those students passing the Department Proficiency Exam. See course descriptions.

*Bus Mach 170 may be waived for those students who already know the typewriter keyboard.

Required:

Business	34
Electives	
(9 must be in Business)	23
State and local required	5
Total Semester Hours	62

Suggested Business Electives

Dist Ed 145—Sales	
Gen Bus 110—Business Computations	
Data Proc 235—Data Processing Applications	
Gen Bus 252—Business Law	
Bus Mach 175—Machine Calculation	
Gen Bus 157—Filing and Records Management	
Acct 213—Cost Accounting	
Dist Ed 141-142—Transportation and Traffic Management	

Dist Ed 241-242—Transportation and Traffic Management
Co-op education may be elected for credit (3-12 credits)
See J. Christensen, J-105

Suggested Non-Business Electives

Speech 112—Fundamentals of Oral Communication	
Psy 101—Applied Psychology	
Econ 111 or 211—Essentials or Principles	
Soc 211—Principles of Sociology	

Any exceptions to the above curriculum must be approved by the Division Chairman.

MARKETING CURRICULUM**Associate Degree Program**

This curriculum is designed to prepare persons who have career interest in: Retail supervisory and sales positions; wholesale supervisory and sales positions; insurance sales careers, manufacturers' sales representatives; sales management work; marketing trainees; advertising positions; other professional selling positions.

First Semester**Sem Hrs**

Acct 111 (01111) Introductory Accounting	4
Gen Bus 151 (12151) Business Communications	3
Gen Bus 153 (12153) Introduction to Business	3
Bus Mach 170* (17170) Beginning Typewriting or Bus Mach 171* (17171) Refresher Typewriting	2,1
Elective	3
PE—Elective—Activity	1
	16,15

Second Semester

Data Proc (To be arranged)	3
Gen Bus 152 (12152) Business Communications	3
Dist Ed 243 (09243) Marketing	3
Electives	6
	15

Third Semester

Gen Bus 251 (12251) Business Law	3
Dist Ed 145 (09145) Sales	3
Dist Ed 143 (09143) Advertising	3
Pol Sci 103 (85103) Introduction to American Government	3
Elective	3
PE—Elective—Activity	1
	16

Fourth Semester

Dist Ed 247 (09247) Retailing	3
Gen Bus 255 (12255) Office Administration or Dist Ed 245 (09245) Principles of Management	3
Electives	9
	15

*Bus Mach 170 and 171 will be waived for those students passing the Department Proficiency Exam. See course descriptions.

*Bus Mach 170 may be waived for those students who already know the typewriter keyboard.

Required:

Business	36
Elective	
(6 must be in Business)	21
State and local required	5
Total Semester Hours	62

Suggested Business Electives

Acct 112—Introductory Accounting
Gen Bus 110—Business Computation
Data Proc 235—Data Processing Applications
Gen Bus 252—Business Law
Gen Bus 255—Office Administration
Dist Ed 245—Principles of Management
Bus Mach 175—Machine Calculations
Gen Bus 157—Filing and Records Management
Co-op Ed may be elected for credit (3-12 credits)
See J. Christensen, J-105

Suggested Non-Business Electives

Speech 112—Fundamentals of Oral Communication
Psy 101—Applied Psychology *KENNEDY*
Soc 211—Principles of Sociology *CHENGER*
Econ 111 or 221—Essentials or Principles
Eng 115—Basic Journalism Skills and/or Eng 116—
News Reporting
Art 115—Basic Design Two and/or Art 116—Three Dimensional

Any exceptions to the above curriculum must be approved by the Division Chairman.

MEDICAL ASSISTANT CURRICULUM

Associate Degree Program

Among the job opportunities to be found upon completion of the Medical Assistant Curriculum are: Hospitals, doctors' offices, clinics, public health centers, health insurance agencies, scientific publication offices.

First Semester

Sem Hrs

AH 114 (68114) Integrated Medical Science and Terminology I ..	6
Gen Bus 151 (12151) Business Communications	3
Bus Mach 273 (17273) Advanced Typewriting	3
Gen Bus 157 (12157) Filing and Records Management	3
PE—Elective—Activity	1
	16

Second Semester

AH 115 (68115) Integrated Medical Science and Terminology II	6
Gen Bus 152 (12152) Business Communications	3
Sec Sci 274 (17274) Voice Transcription and Copying Machine Procedures	2
Math 117 (58117) Mathematics for Allied Health	2
Pol Sci 103 (85103) Introduction to American Government	3
PE—Elective—Activity	1
	17

Third Semester

AH 117 (68117) Assisting the Physician	2
Acct 101 (01101) Applied Accounting	4
Psych 101 (68101) Applied Psychology	3
Gen Bus 251 (12251) Business Law	3
Elective	3
	15

Fourth Semester

AH 118 (68118) Basic Medical Laboratory Techniques	2
Gen Bus 154 (12154) Insurance and Medical Records	2
AH 119 (68119) Medical Office Internship	2
Gen Bus 252 (12252) Business Law	3
Sec Sci 261 (15261) Secretarial Practices	3
Elective	2
	14

Required:

Business	29
Science	18
Electives	5
Other	5
State & Local Required	5
Total	62

Suggested Electives:

Psychology 223
Economics 111
General Business 255
Secretarial Science 161, 162
Speech 112
Data Processing 132, 133

Any exceptions from the above curriculum must be approved by the Division Chairman.

REAL ESTATE CURRICULUM

Associate Degree Program

Students who complete this program will be exposed to material preparing them for the salesman's and broker's license examinations. They will have completed the subject matter required by the National Association of Real Estate Boards for the GRI (Graduate Realtors Institute) rating.

Students completing this program will be prepared to enter the following fields of Real Estate: Sales and brokerage; appraisal; departments of financial institutions; departments of local, state, and federal governments; and abstracts and title companies.

First Semester	Sem Hrs
RE 181 (03181) Real Estate Principles I	3
Gen Bus 110 (12110) Business Computations	3
Acct 111 (01111) Introductory Accounting	4
Gen Bus 151 (12151) Business Communications	3
*Bus Mach 170 (17170) Beginning Typewriting	2
PE—Elective—Activity	1
	16

Second Semester	
RE 183 (03183) Real Estate Procedure	3
RE 182 (03182) Real Estate Principles II	3
Data Proc 133 (07133) Introduction to Data Processing	3
Acct 112 (01112) Introductory Accounting	4
Gen Bus 152 (12152) Business Communications	3
PE—Elective—Activity	1
	17

Third Semester	
RE 281 (03281) Real Estate and Government	3
Acct 215 (01215) Federal Tax Accounting	3
Dist Ed 145 (09145) Sales	3
Gen Bus 153 (12153) Introduction to Business	3
Gen Bus 251 (12251) Business Law	3
	15

Fourth Semester	
RE 282 (03282) Real Estate Finance	3
RE 283 (03283) Real Estate Appraisal	3
Pol Sci 103 (85103) Introduction to American Government	3
Elective	3
Arch Tech 101 (91101) Materials and Methods of Architectural Construction	2
Bus Mach 175 (17175) Machine Calculation	2
	16

*Business Machines will be waived if the Department Proficiency Exam is passed.

RETAIL MID-MANAGEMENT CURRICULUM

Associate Degree Program

This curriculum is designed to help prepare persons interested in responsible careers within the retailing and retail-related field of employment. The scope of job possibilities is very wide. Some of the specific job opportunities include: Owning and operating a retail store; operating a franchised retail store; operating a leased department within a large retail store; department manager of a retail store; retail management trainee; commissioned retail salesperson; retail store personnel department employee; manufacturers' sales representative selling to retailers; wholesalers' sales representative selling to retailers; managing a retail store for someone else.

First Semester	Sem Hrs
Gen Bus 153 (12153) Introduction to Business	3
Coop Ed 125 (05125) Cooperative Distributive Education	3
Gen Bus 151 (12151) Business Communications	3
Speech 112 (46112) Fundamentals of Oral Communication	3
Bus Mach 170* (17170) Beginning Typewriting or	
Bus Mach 171* (17171) Refresher Typewriting	2,1
Elective	1,3
PE—Elective—Activity	1
	15,17

Second Semester	
Gen Bus 152 (12152) Business Communications	3
Acct 111 (01111) Introductory Accounting	4
Dist Ed 247 (09247) Retailing	3
Coop Ed 126 (05126) Cooperative Distributive Education	3
PE—Elective—Activity	1
	14

Third Semester	
Coop Ed 225 (05225) Cooperative Distributive Education	3
Business Electives	6
	9

Fourth Semester	
Psych 101 (86101) Applied Psychology	3
Dist Ed 243 (09243) Principles of Marketing	3
Coop Ed 226 (05226) Cooperative Distributive Education	3
Dist Ed 143 (09143) Advertising	3
Non-business Elective	3
	15

Fifth Semester	
Gen Bus 251 (12251) Business Law	3
Dist Ed 245 (09245) Principles of Management	3
Pol Sci 103 (85103) Introduction to American Government	3
Dist Ed 145 (09145) Sales	3
Non-business Elective	3
	15

*Electives may be substituted upon demonstration of equivalent skills. See course descriptions.

Suggested Electives

Data Proc 133—Introduction to Data Processing
Acct 112—Introductory Accounting
Gen Bus 110—Business Computations
Gen Bus 252—Business Law
Gen Bus 255—Office Administration
Gen Bus 157—Filing and Records Management
Dist Ed 141—Transportation and Traffic Management
Bus Mach 175—Machine Calculation
Econ 111—Essentials of Economics or
Econ 221—Principles
Soc 211—Principles
Eng 111—Freshman Composition
Art 115—Basic Design—Two Dimensional

Arrangements for Cooperative Distributive Education should be made with J. Christensen, J-105. Any exception to the above curriculum must be approved by the Division Chairman.

CHEMICAL SECRETARIAL CURRICULUM

Associate Degree Program

Among the job opportunities to be found upon completion of the Chemical Secretarial Curriculum are: Chemical companies, pharmaceutical companies, scientific research, research and development departments of business and industry.

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Sec Sci 161* (15161) Beginning Shorthand	4
Bus Mach 170* (17170) Beginning Typewriting or	
Bus Mach 171* (17171) Refresher Typewriting	2,1
Gen Bus 153 (12153) Introduction to Business	3
Gen Bus 110 (12110) Business Computations	3
PE—Elective—Activity	1
	16,15

Second Semester

Gen Bus 152 (12152) Business Communications	3
Sec Sci 162* (15162) Intermediate Shorthand	4
Bus Mach 172* (17172) Intermediate Typewriting	3
Gen Bus 157 (12157) Filing and Records Management	3
Acct 101 (01101) Applied Accounting or Acct 111 (01111)	
Introductory Accounting	4
	17

Third Semester

Sec Sci 263 (15263) Dictation and Transcription	4
Bus Mach 273 (17273) Advanced Typewriting or	
Bus Mach 274 (17274) Voice Transcription and Copying Machine	
Procedures	3,2
Bus Mach 175 (17175) Machine Calculations	2
Chem 101 (71101) General Chemistry	5
Psy 101 (86101) Applied Psychology or elective	3
	17,16

Fourth Semester

Sec Sci 264 (15264) Speed Building and	
Specialized Shorthand	3
Sec Sci 261 (15261) Secretarial Practices	3
Data Proc 132 (07132) Computers, Their Use and Potential or	
Data Proc 133 (07133) Introduction to Data Processing	3
Pol Sci 103 (85103) Introduction to American Government	3
Elective	3
PE—Elective—Activity	1
	16

*Electives may be substituted upon demonstration of equivalent skills.

Required:

Business	
Secretarial Science	18
Other	32
Total Business required	50
State and local required	5
Non-business required	5
Total required	60
Electives	3
Total Semester hours	63

Suggested Electives

Data Proc 179—Key Punching and Verifying
Gen Bus 251—Business Law
Gen Bus 255—Office Administration
Coop Ed 121, 122, 221, 222—Cooperative Office
Education
Chem 102—General Chemistry
Econ 111—Essentials of Economics
Speech 112—Fundamentals of Oral Communication

Any exceptions to the above curriculum must be approved by the Division Chairman.

LEGAL SECRETARIAL CURRICULUM

Associate Degree Program

Among the job opportunities to be found upon the completion of the Legal Secretarial Curriculum are: Law offices, county and city offices, legal and patent offices in business and industry, legislative offices, legal publishing companies, trust departments, Judges' offices.

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Sec Sci 161* (15161) Beginning Shorthand	4
Bus Mach 170* (17170) Beginning Typewriting or	
Bus Mach 171* (17171) Refresher Typewriting	2,1
Gen Bus 153 (12153) Introduction to Business	3
Gen Bus 110 (12110) Business Computations	3
PE—Elective—Activity	1
	16,15

Second Semester

Gen Bus 152 (12152) Business Communications	3
Sec Sci 162* (15162) Intermediate Shorthand	4
Bus Mach 172* (17172) Intermediate Typewriting	3
Data Proc 133 (07133) Introduction to Data Processing or	
Data Proc 132 (07132) Computers, Their Use and Potential ...	3
Gen Bus 157 (12157) Filing and Records Managment	3
	16

Third Semester

Sec Sci 263 (15263) Dictation and Transcription	4
Bus Mach 273 (17273) Advanced Typewriting	3
Acct 101 (01101) Applied Accounting or	
Acct 111 (01111) Introductory Accounting	4
Bus Mach 175 (17175) Machine Calculation	2
Gen Bus 251 (12251) Business Law	3
	16

Fourth Semester

Sec Sci 264 (15264) Speed Building and Specialized Shorthand	3
Sec Sci 261 (15261) Secretarial Practices	3
Bus Mach 274 (17274) Voice Transcription and Copying Machine	
Procedures	2
Gen Bus 252 (12252) Business Law	3
Pol Sci 103 (85103) Introduction to American Government	3
PE—Elective—Activity	1
	15

*Electives may be substituted upon demonstration of equivalent skills. See course descriptions.

Required:

Business	18
Secretarial Science	40
Other	58
Total Business Required	5
State and local required	63
Total semester Hours	

Suggested Electives

Data Proc 179—Key Punching and Verifying	
Coop Ed 121, 122, 221, 222—Cooperative Office	
Education	
RE 181—Real Estate Principles I	
Gen Bus 255—Office Administration	
Econ 111—Essentials of Economics	
Psy 101—Applied Psychology	
Speech 112—Fundamentals of Oral Communica-	
tion	

Any exceptions to the above curriculum must be approved by the Division Chairman.

SECRETARIAL CURRICULUM

Associate Degree Program

Among the job opportunities to be found upon the completion of the Secretarial Curriculum are: Banking, government, education, entertainment, insurance, retailing and wholesaling, manufacturing, real estate, travel, transportation.

First Semester	Sem Hrs
Gen Bus 151 (12151) Business Communications	3
Bus Mach 170* (17170) Beginning Typewriting or	
Bus Mach 171* (17171) Refresher Typewriting	2,1
Sec Sci 161* (15161) Beginning Shorthand	4
Gen Bus 153 (12153) Introduction to Business	3
Gen Bus 110 (12110) Business Computations	3
PE—Elective—Activity	1
	16,15

Second Semester

Gen Bus 152 (12152) Business Communications	3
Sec Sci 162* (15162) Intermediate Shorthand	4
Bus Mach 172* (17172) Intermediate Typewriting	3
Gen Bus 157 (12157) Filing and Records Management	3
Data Proc 132 (07132) Computers, Their Potential and Use or	
Data Proc 133 (07133) Introduction to Data Processing	3
	16

Third Semester

Sec Sci 263 (15263) Dictation and Transcription	4
Bus Mach 273 (17273) Advanced Typewriting	3
Acct 101 (01101) Applied Accounting or Acct 111 (01111) Introductory Accounting	4
Bus Mach 175 (17175) Machine Calculation	2
Psy 101 (86101) Applied Psychology or Elective	3,2
	16,15

Fourth Semester

Sec Sci 264 (15264) Speed Building and Specialized Shorthand	3
Sec Sci 261 (15261) Secretarial Practices	3
Pol Sci 103 (85103) Introduction to American Government	3
Elective	4
PE—Elective—Activity	1
	14

*Electives may be substituted upon demonstration of equivalent skills. See course descriptions.

Required:

Business	
Secretarial Science	18
Other	32
Total Business	50
State and local required	5
Total Required	55
Electives	7
Total Semester Hours	62

Suggested Electives

Bus Mach 274—Voice Transcription and Copying Machine Procedures	
Data Proc 179—Key Punching and Verifying	
Coop Ed 121, 122, 221, 222—Cooperative Office Education	
Gen Bus 255—Office Administration	
Econ 111—Essentials of Economics	
Speech 112—Fundamentals of Oral Communi- cation	

Any exception to the above curriculum must be approved by the Division Chairman.

DENTAL ASSISTANT CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is main-

tained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

Continuation in the sequence of courses is dependent upon successful completion of all dental assisting courses taken in the previous semester. Successful completion implies the achievement of a grade of "D" or better in each class in dental assisting for the student to enroll in the second or third semesters. An overall "C" average or better in all previous dental assisting classes is necessary for enrollment into the fourth semester of the curriculum.

First Semester

Sem Hrs

AH 107 (68107) Integrated Dental Science	5
DA 111 (62111) Introduction to Dental Assisting	1
DA 112 (62112) Dental Morphology and Physiology	2
DA 113 (62113) Dental Instruments and Equipment	2
DA 114 (62114) Preventive Dentistry	1
Gen Bus 151 (12151) Business Communications	3
PE—Elective—Activity	1
	15

Second Semester

AH 108 (68108) Integrated Dental Science	5
DA 151 (62151) Dental Materials and Lab Procedures	4
DA 152 (62152) Dental Roentgenology	2
DA 153 (62153) Operative Dentistry	3
DA 293 (62293) Human Potential	1
PE—Elective—Activity	1
	16

Third Semester

DA 212 (62212) Dental Roentgenology	1
DA 213 (62213) Operative Procedures	3
DA 215 (62215) Dental Office Practice	3
Gen Bus 152 (12152) Business Communications	3
Soc 121 (88121) Marriage and Family or Soc 211 (88211) Principles of Sociology	3
DA 214 (62214) Preventive Dentistry	2
	15

Fourth Semester

Pol Sci 103 (85103) Introduction to American Government	3
Sp 112 (46112) Fundamentals of Oral Communication	3
Psy 101 (86101) Applied Psychology	3
DA 251 (62251) Internship—Operative	7
	16

NURSING CURRICULUM

Associate Degree Program

The nursing program prepares young men and women to function effectively as members of the health team. The student will develop the ability to be self-directing to identify problems, and to work toward achieving satisfactory solutions. He will develop the basic knowledge and skills necessary for the nurse's role in the care of the patient.

The nursing program is six semesters in length. It includes 35 semester hours in general education and 51 semester hours in nursing education. Clinical laboratory experiences are offered the student under the supervision of the college nursing faculty. Various health agencies of the Saginaw Valley are utilized in offering these experiences to the student.

Upon successful completion of the program of study the student will be awarded the Associate in Applied Science Degree by Delta College.

The nursing program is approved by the Michigan Board of Nursing and the National League for Nursing. The student, after graduation, is eligible to sit for the State Board Examinations, leading to Michigan licensure and the privilege of using the title of Registered Nurse (RN).

Admission Policies

1. Students must have received a high school diploma or its equivalent (G.E.D.).
2. Students must meet the general admission requirements and be admitted to the College. Those presently on nursing waiting list have met this requirement.

Students will be considered eligible for admission to the nursing program (clinical sequence) upon successful completion of the following minimum requirements:

3. Have a complete physical examination with satisfactory results (on file in Delta's Health Office no longer than three months) prior to application to the Nursing Course Sequences 2 and 3, and/or chest x-ray. Students are required to have the physical examination renewed annually.
4. Successful completion of the following courses with a grade of "C" (2.0) or better achieved in each. These courses are considered prerequisites to the Clinical sequence.

Allied Health Anatomy and Physiology 101 (68101) and 102 (68102)

Allied Health Microbiology 103 (88103)

Introduction to Health Care: Nursing 100 (61100)

5. An additional requirement to Item 4 is successful completion of a minimum of 12 credit hours selected from the general education courses required in the Nursing Curriculum.

In addition, it is strongly *recommended* that the following requirements be a part of Item 5.

6. (a) Successful completion of the following courses:
English 111 (20111), English 112 (20112)
Psychology 211 (86211)
Sociology 211 (88211)
- (b) An overall grade point average of "C" (2.0) be maintained in all courses taken.

Students requesting a prerequisite waiver and/or waiver for any general education course requirement should initially consult the counselor associated with the Nursing Division. All waiver requests must be approved by the Nursing Review Board.

Progression and Retention Policies

1. Students admitted to the nursing program (clinical sequence) must take the required nursing courses in one of the recommended sequences.
2. Students are required to maintain a grade of "C" (2.0) or above in each of the required clinical nursing courses taken.
If a student earns a grade of "E" in a clinical nursing course, the student must petition the Nursing Review Board for approval to repeat the course.
If a student earns a grade of "D" or less, more than once in a clinical nursing course, the student must petition the Nursing Review Board for approval to repeat the course.
3. Any student who has had a lapse of more than one semester in which appropriate sequence nursing courses are available without being enrolled in and/or completing the curriculum course sequence, the student will be eligible for re-enrollment in the program only upon the written approval of the Nursing Review Board. This is contingent in part on space availability.

Graduation Policies

Upon successful completion of the College and Nursing Division requirements, the student will be awarded the Associate in Applied Science Degree and will be eligible to write the State Board Examinations, leading to Michigan licensure and the privilege of using the title of Registered Nurse (RN).

Candidates for the Associate Degree in Applied Science must meet the following requirements:

1. Nursing Curriculum requirements as indicated in the College Catalog
2. Completion of the clinical nursing course sequence with a grade of "C" (2.0) or above in each course.

GENERAL EDUCATION COURSES

	Sem Hrs
Nurs 100 (61100)—Introduction to Health: Nursing	2
Eng 111 (20111)—Freshman Composition	3
Eng 112 (20112)—Freshman Composition	3
AH 101 (68101)—Allied Health Anatomy and Physiology	4
AH 102 (68102)—Allied Health Anatomy and Physiology	4
AH 103 (68103)—Allied Health Microbiology	4

Pol Sci 103 (85103)—Introduction to American Government ..	3
Soc 211 (88211)—Principles of Sociology	3
PE—Elective—Activity	1
PE—Elective—Activity	1
Psy 211 (86211)—General Psychology	4
Psy 231 (86231)—Psychology of Personality or	
Psy 241 (86241)—Abnormal Psychology	3
	35

NURSING COURSES

Nurs 101 (61101)—Nursing 1	4
Nurs 102 (61102)—Nursing 2	4
Nurs 103 (61103)—Nursing 3	4
Nurs 104 (61104)—Nursing 4	4
Nurs 105 (61105)—Nursing 5	4
Nurs 106 (61106)—Nursing 6	4
Nurs 207 (61207)—Nursing 7	4
Nurs 208 (61208)—Nursing 8	4
Nurs 209 (61209)—Nursing 9	4
Nurs 221 (61221)—Nursing 10	5
Nurs 222 (61222)—Nursing 11	5
Nurs 223 (61223)—Nursing 12	5
	51

It is recommended that the catalog course description be checked for prerequisites prior to registration.

RADIOLOGIC TECHNOLOGY CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited enrollment" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

Admission to the technical portion of the curriculum (Rad. Tech. and Rad. Tech. Science courses) requires:

1. verification from the x-ray counselor that the students' position on the waiting list makes them eligible.
2. completion of the ACT national test (which may be taken through the Delta College testing office or in high school).
3. attendance (by invitation) at a special x-ray cover orientation and completion of 2 (half-day each) hospital x-ray department observations.
4. successful completion of the necessary course pre-requisites which are: high school Algebra I and Algebra II or Geometry;

one year of high school Biology; one year of high school Chemistry or Physics. Students not having this high school background must take the equivalent courses at Delta College or have equivalent credit by examination.

As the student proceeds through the curriculum he or she must demonstrate competence in each course. The student must achieve a minimum of a "C" grade in each of the Radiologic Technology and Radiologic Technology Science courses before he/she can continue into the next course in the curriculum. The student should refer to the course description for specific pre-requisites.

Beginning with the third semester of Radiologic Technology classes, the student is affiliated with (on-the-job) training at one of the following hospitals: Bay City Medical Center (General Hospital Div. and Mercy Memorial Div.); Saginaw—St. Luke's, St. Mary's, Saginaw General, or Saginaw Osteopathic.

First 15-week Semester

	Sem Hrs
AH 104 (68104) Integrated Radiologic Technology Science	5
Rad Tech 111 (63111) Introduction to Radiologic Technology ..	3
PE 101 (65101) Physical Fitness	1
Eng 111 (20111) Freshman Composition	3
	12

Second 15-week Semester

AH 105 (68105) Integrated Radiologic Technology Science	5
Rad Tech 112 (63112) Radiologic Technology I	4
PE—Elective—Activity	1
AH 111 (68111) Medical Terminology	2
Rad Tech 102 (63102) Radiographic Physics	3
	15

Third 15-week Semester

Eng 112 (20112) Freshman Composition	3
Rad Tech 113 (63113) Radiologic Technology II	8
Pol Sci 103 (85103) Introduction to American Government	3
	14

Fourth 15-week Semester

Psy—Elective	3-4
Rad Tech 211 (63211) Advanced Radiologic Technology I	10
	13-14

Fifth 15-week Semester

Soc 211 (88211) Principles of Sociology	3
Rad Tech 212 (63212) Advanced Radiologic Technology II	10
	13

Sixth 15-week Semester

Rad Tech 213 (63213) Radiologic Technology Internship I	12
---	----

Seventh and Eighth 15-week Semesters

Rad Tech 311* (63311) Radiologic Technology Internship II	12
Rad Tech 312* (63312) Radiologic Technology Internship III	12

*Follow in consecutive order with no semester break

BROADCASTING CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

The Delta College Broadcasting Curriculum combines special radio-television courses with general education classes. Students work with professional broadcasters who serve as teaching faculty. Experience in the College's Television Department may be coupled with on-the-job training at local commercial stations.

Upon successful completion of the four-semester Broadcasting Curriculum, students are eligible for an Associate Degree in Arts or an Associate Degree in Applied Science, depending on selection of electives. In fundamentals of broadcasting, for example, freshmen composition, physical education, and political science augment a block of radio-television classes, including speaking and announcing, studio operations, broadcast news, oral interpretation, broadcast sales, and television production and direction.

Two credit hours of physical education must be completed by the student for graduation at Delta College.

The Television Department will attempt to provide work-related experiences in broadcasting stations for students who are qualified and desire such experience.

Those students who intend to transfer and pursue a baccalaureate degree should consult with a counselor when choosing electives.

First Semester

	Sem Hrs
Eng 111 (20111) Freshman Composition	3
RTV 149 (43149) Broadcasting Laboratory	3
RTV 150 (43150) Radio and Television Writing	3
RTV 156 (43156) Radio Broadcasting	3
Pol Sci 111 (85111) American Government and Politics or	
Pol Sci 103 (85103) Introduction to American Government	4, 3
	16, 15

Second Semester

Eng 112 (20112) Freshman Composition	3
RTV 153 (43153) Broadcast Performance	3
RTV 154 (43154) Fundamentals of Studio Operations	3
RTV 157 (43157) Cinematography for Television	3
Elective	3
	15

Third Semester

Econ 221 (81221) Principles of Economics	4
RTV 220 (43220) Communications History, Law	
and Responsibilities	3
RTV 222 (43222) Broadcast Journalism	3
RTV 225 (43225) Advanced Studio Operations	3
Speech 213 (46213) Oral Interpretation of Literature or	
Speech 112 (46112) Fundamental of Oral Communication	3
	16

Fourth Semester

RTV 227 (43227) Broadcast Sales	3
RTV 251 (43251) Television Producing and Directing	3
Electives	9
	15

LABOR LEADERSHIP SPECIALIST

Certificate Program

The Labor Leadership Certificate Curriculum is designed to provide individuals with the skills required for advancement to leadership positions in unions. It provides an understanding of the economic, social, and political factors which influence the individual and the group in the American labor movement.

Although this Social Science Division program is designed for current union members and others who are interested in future labor leadership roles, any qualified college student is eligible. A Labor Leadership Specialist Curriculum is granted upon completion of the one-year program.

Required Basic Courses

	Sem Hrs
Lab Rel 101 (89101) Development of the Labor Movement	
and Labor Legislation	2
Lab Rel 102 (89102) Labor and the Political System	2
Lab Rel 103 (89103) Economics of Income, Employment,	
and Collective Bargaining	2
Lab Rel 104 (89104) International Issues	2
Lab Rel 105 (89105) Collective Bargaining in Theory	
and Practice	2

Lab Rel 106 (89106) Seminar in Labor Problems	2
Lab Rel 107 (89107) Social Psychology in Industry	2
Soc 101 (88101) Problems of the Community	2
Eng 122 (20122) Effective Reading	2
Human 101 Communications Process	2
	20

Suggested Electives

Econ 114 (81114) Consumer Economics	3
Econ 221 (81221) Principles of Economics	4
Hist 113 (83113) History of Michigan	2
*Hist 224 (83224) History of Urban America	3
*Pol Sci 212 (85212) State and Local Government	3
*Pol Sci 220 (85220) Minority Politics	3
*Pol Sci 221 (85221) Comparative Government	3
Soc 150 (88150) Community Organization and Analysis	3
*Soc 215 (88215) Sociology of Minority Groups	3
	27

In order to complete the certificate, each student may select ten elective credits from the above regular Delta courses in addition to the required courses listed.

*(The courses bearing an asterisk require a prerequisite or permission of the instructor.)

LAW ENFORCEMENT CURRICULUM

Associate Degree Program

Delta College offers a Law Enforcement program that is designed to give specialized knowledge of law enforcement combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet ever-increasing demands and continuous upgrading by law enforcement agencies, including skills and attitudes required for employment or advancement. Students graduating from Delta College's two-year Law Enforcement curriculum receive an Associate Degree in Applied Science and are eligible for immediate employment or transfer to leading state university Law Enforcement Programs.

First Semester

	Sem Hrs
Pol Sci 103 (85103) Introduction to American Government	3
Engl 111 (20111) Freshman Composition	3
LE 110 (84110) Introduction to Law Enforcement	3
LE 111 (84111) Police Organization and Administration	3
Speech 112 (46112) Fundamentals of Oral Communication	3
PE 101 (65101) Physical Fitness	1
	16

Second Semester

Eng 112 (20112) Freshman Composition	3
Biol 111 (69111) Principles of Biology	4
LE 112 (84112) Police Operations	3
Chem 101 (71101) General Chemistry or	
Geol 111 (75111) Physical Geology	5,4
PE 125 (65125) Judo or PE 128 (65128) Wrestling	1
	16, 15

Third Semester

Psy 211 (86211) General Psychology	4
Soc 211 (88211) Principles of Sociology	3
*Hist Elective	4,3
LE 210 (84210) Introduction to Criminal Investigation	3
LE 250 (84250) Juvenile Delinquency	3
	17,16

Fourth Semester

Psy 231 (86231) Personality, or Psy 241 (86241) Abnormal	
Psychology, or LE 220 (84220) Crime	
Laboratory Techniques	3
LE 270 (84270) Evidence and Criminal Procedure	3
LE 271 (84271) Criminal Law	3
**Approved Elective	3
**Approved Elective	3
	15

*History electives: Hist 111—Survey of Early Western Civilization, Hist 112—Survey of Later Western Civilization, Hist 221—U.S. to 1865, Hist 222—1865 to present.

**For transfer to Michigan State University and Wayne State University, a course in Social Studies and a course in Humanities is needed.

PUBLIC SERVICE CURRICULUMS

Delta College offers Public Service programs that are designed to give knowledge of public service combined with a broad educational background. Upon successful completion of the program, the student will be awarded the degree of Associate in Arts for the Urban-professional Assistant program and the Social Health Services Assistant.

Associate Degree Programs

Basic courses required for each Public Service Curriculum

	Sem Hrs
Eng 111 (20111) Freshman Composition	3
Eng 112 (20112) Freshman Composition	3
Pol Sci 103 (85103) Introduction to American Government	3
Pol Sci 128 (85128) Introduction to Urban	
Public Service Problems	4

Pol Sci 228 (85228) Internship	3
Psy 211 (86211) General Psychology	4
PE—Elective—Activity (two sections)	2
Humanities Electives	8
Science Electives	8
	38

Professional Area Courses

(In addition to required basic courses)

Social Health Services Assistant

Hist 244 (83244) Hist of Urban America	3
Soc 150 (88150) Community Organization and Analysis	3
Soc 212 (88212) Social Problems	3
Geog 211 (74211) Economic Geography	4
**Psy 231 (86231) Psychology of Personality	3
**Econ 211 (81211) Principles of Economics	4
**Pol Sci 220 (85220) Minority Group Politics	3
*Electives	1
	24

Urban Professional Assistant

Hist 244 (83244) History of Urban America	3
Soc 150 (88150) Community Organization and Analysis	3
Soc 212 (88212) Social Problems	3
Geog 211 (74211) Economic Geography	4
**Econ 221 (81221) Principles of Economics	4
**Econ 222 (81222) Principles of Economics	4
*Electives	3
	24

**Electives to be determined after consultation with faculty of the Urban Public Service Program.

*Suggested Electives:

Data Proc 133—Introduction
Eng 113—Technical Writing
Eng 271—American Literature
Eng 272—American Literature
Eng 275—Afro-American Literature
Phil 211—Introduction to Philosophy
Phil 212—Reading in Elementary Philosophy
Phil 213—Introduction to Ethics
Phil 221—Logic
Spch 112—Fundamentals of Oral Communication
Math 108—Elementary Statistics
Biol 111—Principles of Biology
Biol 112—General Biology
Biol 115—Environmental Science
Chem 111—General and Inorganic Chemistry
Hist 214—Blackman in America
Hist 215—Blackman in the United States

Law Enf 110—Introduction to Law Enforcement
Pol Sci 212—State and Local Government
Pol Sci 227—American Political Parties
Soc 121—Marriage and Family
Soc 231—Cultural Anthropology
Soc 250—Introduction to Social Work

TECHNICAL CAREER PROGRAMS

Associate Degree and Certificate Curricula. The technical programs at Delta College evolved at the request of local industry. After many months of study and development, these college-level courses were offered to interested students to prepare them to enter well-paid positions in industry. To achieve this end, the curricula are practical in nature and job-oriented in purpose.

The current trend is toward fewer unskilled jobs and increased emphasis on technical training. The demand for skilled technicians will continue to increase along with the need for professionally trained personnel. Successful completion of a curriculum enables a vocationally oriented student to enter an available position as a member of the American industrial team.

The programs are broad in nature, serve a variety of industrial requirements, and they provide the necessary base for future upgrading of the individual as required by a changing technology. Continual review and improvement render the curricula immediately relevant and practical.

ARCHITECTURAL TECHNOLOGY CURRICULUM

Associate Degree Program

Architectural Technology has an emphasis on job entry skill development and general education. For those who have the talent and inclination to equip themselves, jobs will await emerging technicians with local employers as well as others throughout the State and out-State. Technicians will be involved in many exciting projects, ranging from individual residences to industrial and commercial buildings, churches, schools, and government buildings. Many related companies in the architectural construction industry employ architecturally trained technicians as: Draftsmen for installation drawings and shop drawings, building appraisers for financial institutions, estimators or supervisors for contractors, inspectors for government agencies, or secretaries.

First Semester

	Sem Hrs
Arch Tech 105 (91105) Architectural Drafting I	7
Arch Tech 101 (91101) Materials and Methods of Architectural Construction	2

Math 111/112 (58111/58112) Applied Algebra	4
Math 106 (58106) Elementary Slide Rule or	
Math 105 (58105) Electronic Calculating Procedure	1
PE—Elective—Activity	1
	15

Second Semester

Arch Tech 106 (91106) Architectural Drafting II	7
Arch Tech 111 (91111) Mechanical and Electrical	
Equipment for Buildings	4
Eng 111 (20111) Freshman Composition	3
Art 153 (25153) History of Architecture	2
PE—Elective—Activity	1
	17

Third Semester

Math 113 (58113) Applied Trigonometry	2
Eng 113 (20113) Technical Writing	3
	5

Fourth Semester

Arch Tech 205 (91205) Construction Documents I	7
Arch Tech 202 (91202) Specifications and Contracts	2
Arch Tech 221 (91221) Site Preparation	2
Phys 101 (79101) Applied Physics	5
	16

Fifth Semester

Arch Tech 206 (91206) Construction Documents II	7
Arch Tech 211 (91211) Elements of Structural Design	4
Arch Tech 203 (91203) Estimating	2
Pol Sci 103 (85103) Introduction to American Government	3
	16

AUTOMOTIVE SERVICE CURRICULUM

Associate Degree Program

The demands on the automotive service industry have increased year by year. As well as communicating with a highly informed consumer, the service technician must possess proven automotive service qualifications, identified competencies, and have mastery of specific skills. The Delta Automotive Service Program is geared to develop service methods and skills for proficiency as a qualified technician. The program is scheduled and operated to simulate actual working conditions existing in a dealership, service center, or independent garage. In addition to on-campus learning activities, direct exposure to the automotive service field is provided through experiential learning. For this phase of development the student is placed within an identified automotive dealership, service center, or independent garage.

Associate Degree Program

The main objective for establishing this program is to provide the student with four clusters of preparation which qualifies him for an Associate Degree. The graduate may enter the automotive service field as a service technician or continue further development toward a higher career goal.

Certificate Program

The main objective for establishing this program is to provide the student an expedient preparation for entry into the automotive service field. The curriculum is made up exclusively of automotive oriented courses and concentrates on the development of service skills. Completion of three out of four automotive service clusters provides a student with a Service Specialist Certificate. It is possible for a student to complete this program within a ten-month period.

First Semester

	Sem Hrs
First Automotive Cluster	
Service Methods Module	
AS 110 (92110) Minor Service Methods	1
AS 111 (92111) Engine Service Methods	2
AS 112 (92112) Basic Electricity	2
Service Skill Module	
AS 113 (92113) Minor Service Skills	2
AS 114 (92114) Engine Service Skills	3
Experiential Service Module	
AS 115 (92115) Electrical Circuits Service	2
AS 116 (92116) Electrical Circuits Experiential Learning	1
PE—Elective—Activity	2
	15

Second Semester

Second Automotive Cluster	
Service Methods Module	
AS 120 (92120) Tune-up Service Methods	2
AS 121 (92121) Electrical Systems Service Methods	2
AS 122 (92122) Fuel Systems Service Methods	1
Service Skill Module	
AS 123 (92123) Tune-up Service Skills	2
AS 124 (92124) Electrical Systems Service Skills	2
AS 125 (92125) Fuel Systems Service Skills	1
Experiential Service Module	
AS 126 (92126) Air Conditioning Systems Service	2
AS 127 (92127) Air Conditioning Experiential Learning	1
Mathematics (Dr 110 recommended)	4
	17

Third Semester	Sem Hrs
Third Automotive Cluster	
Service Methods Module	
AS 230 (92230) Automatic Transmission Service Methods .. 2	
AS 231 (92231) Driveline Service Methods 1	
Service Skill Module	
AS 232 (92232) Automatic Transmission Service Skills 2	
AS 233 (92233) Driveline Service Skills 1	
Communications—5 hours required (Eng 101 recommended) .. 5	
Psychology (Psy 101 recommended) 3	
Pol Sci 103 (85103) Introduction to American Government 3	
	17

Fourth Semester	
Fourth Automotive Cluster	
Service Methods Module	
AS 240 (92240) Suspension System Service Methods 3	
AS 241 (92241) Brake System Service Methods 2	
Service Skill Module	
AS 242 (92242) Suspension System Service Skills 3	
AS 243 (92243) Brake System Service Skills 2	
Experiential Service Module	
AS 244 (92244) Customer Service Advising 3	
AS 245 (92245) Customer Service Advising Experiential Learning 1	
Elective 2	
	16

DRAFTING AND DESIGN CURRICULUM

Certificate Program

One of the most sought-after skills of the manufacturing industries in this area is mechanical drafting. This program is designed for employment in a specific field of drafting—that of tool and die design. The graduate holds considerable skill in the design and layout of tools, dies, jigs, and fixtures and can expect employment with large corporations or with any of the innumerable machine tool builders or jobbing shops in the area.

First Semester	Sem Hrs
Dr 111 (93111) Engineering Drawing 5	
Dr 112 (93112) Engineering Drawing 5	
Mech Tech 111 (97111) Manufacturing Processes 3	
	13

Second Semester	
Dr 113 (93113) Tool Design 5	
Dr 114 (93114) Tool Design 5	
Dr 110 (93110) Machine Tool Calculations 4	
	14

Third Semester	
Dr 115 (93115) Die Design 5	
Dr 116 (93116) Die Design 5	
Mech Tech 213 (97213) Machine Tools 3	
	13

ELECTRONIC TECHNOLOGY CURRICULUM

Associate Degree Program

Electronic technicians are employed in jobs requiring skills ranging from craftsman to engineering, and the types of jobs range from radio/television serviceman to an instrument technician in an atomic power plant. The technician may be an engineering aide in the laboratory, electronic designer, or a field representative. Computers, amplifiers, control instruments, motors, and generators are some of the equipment he may encounter.

In response to the wide spectrum of tasks performed by the graduates, the Electronics Program at Delta has been designed to prepare them to enter almost any of the occupations that comprise the electrical/electronics cluster. Rather than emphasizing one or two job titles, this program stresses that core of knowledge and skills common to this family of technical occupations.

The program leads to an associate degree. Most graduates leave Delta and go directly to industry. The program is structured, however, so that a student wishing to continue toward a bachelor's degree at a four-year school may do so.

First Semester	Sem Hrs
Eln Tech 111 (95111) Fundamentals of DC Circuits 4	
Eln Tech 115 (95115) Electronic Devices 2	
Dr 105 (93105) Industrial Drafting 3	
Math 111/112 (58111/58112) Applied Algebra 4	
Math 105 (58105) Electronic Calculating Procedures or Math 106 (58106) Elementary Slide Rule 1	
PE—Elective Activity 1	
	15

Second Semester	
Eln Tech 112 (95112) Fundamentals of AC Circuits 3	
Eln Tech 116 (95116) Electronic Devices and Circuits 2	
Mech Tech 213 (97213) Machine Tools 3	
Math 113/114 (58113/58114) Applied Trigonometry 4	
Eng 111 (20111) Freshman Composition 3	
	15

Third Semester	
Eln Tech 213 (95213) Solid State Devices 3	
Eln Tech 241 (95241) AC & DC Machines and Controls 2	
Eln Tech 215 (95215) Electronic Control and Automation 4	
Math 211 (58211) Applied Calculus 5	
Eng 113 (20113) Technical Writing 3	
	17

Fourth Semester

Eln Tech 214 (95214) Communication Circuits	4
Phys 111 (79111) General Physics	4
Chem 101 (71101) General Chemistry	5
Econ 111 (81111) Essentials of Economics	3
PE—Elective—Activity	1
	17

Fifth Semester

Eln Tech 231 (95231) Electronic Fabrication	3
Mech Tech 250 (97250) Statics and Strength of Materials	3
Dr 216 (93216) Electrical Drafting	2
Math 147 (58147) Fortran Programming	2
Pol Sci 103 (85103) Introduction to American Government	3
Speech 112 (46112) Fundamentals of Oral Communication	3
	16

INDUSTRIAL SUPERVISION CURRICULUM

The main emphasis of these programs is to provide the supervisor or aspiring supervisor with knowledge and attitudes to work effectively in that capacity. However, depending on electives selected, the graduate may choose a satisfying non-supervisory position in such areas as industrial engineering, quality control, reliability, and tool engineering. Completion of the requirements for graduation alone will not insure employment as a supervisor in an industrial plant. For further information, contact the Chairman of the Technical Division.

Certificate Program

Sem Hrs

IS 294 (90294) Seminar in Supervision or IS 110 (90110) Industrial Supervision	3
IS 112 (90112) Production Planning and Control	4
Mech Tech 215 (97215) Methods Engineering	3
Eng 111 (20111) Freshman Composition	3
Eng 113 (20113) Technical Writing	3
Psy 101 (86101) Applied Psychology	3
Pol Sci 103 (85103) Introduction to American Government	3
Technical Electives	6
Elective (to fit individual needs)	2
	30

For electives for Certificate Program, see additional requirements or electives for the Associate Degree Program.

Associate Degree Program

(Credits earned at the 100 level or higher on an Industrial Supervision Certificate curriculum may apply toward the degree program.)

IS 294 (90294) Seminar in Supervision or IS 110 (90110) Industrial Supervision	3
IS 112 (90112) Production Planning and Control	4
Mech Tech 215 (97215) Methods Engineering	3
IS 216 (90216) Plant Layout and Materials Handling	3
IS 118 (90118) Industrial Safety	2
IS 210 (90210) Cost Analysis	3
Data Proc 133 (07133) Introduction to Data Processing	3
Eng 111 (20111) Freshman Composition	3
Eng 113 (20113) Technical Writing	3
Psy 101 (86101) Applied Psychology	3
Soc 211 (88211) Principles of Sociology	3
Econ 111 (81111) Essentials of Economics	3
Econ 231 (81231) Industrial Relations	3
Pol Sci 103 (85103) Introduction to American Government	3
Human Relations Elective	3
Technical Electives	6
PE—Elective—Activity	2
Electives (to fit individual needs)	9
	62

Suggested Electives

Technical—

- IS 212 (90212) Problem Analysis and Decision Making Analysis
- Mech Tech 111 (97111)—Manufacturing Processes
- Mech Tech 213 (97213)—Machine Tools
- Mech Tech 214 (97214)—Advanced Machine Tools
- Mech Tech 220 (97220)—Introduction to Fluid Power
- Mech Tech 221 (97221)—Materials and Metallurgy
- Mech Tech 261 (97261)—Numerical Control
- Mech Tech 281 (97281)—Quality Control
- Mech Tech 282 (97282)—Theory of Foundry Practices
- Eln Tech 101 (95101)—Industrial Electricity and Electronics
- Eln Tech 235 (95235)—Electrical Circuits
- Dr 110 (93110)—Dimensional Measurement
- Communications—
- Speech 112 (46112) Fundamentals of Oral Communication
- Speech 214 (46214) Discussion Techniques
- Human Relations—
- Soc 212 (88212) Social Problems
- Soc 215 (88215) Sociology of Minority Groups (Inter-group Relations)
- Pol Sci 220 (85220) Minority Group Politics
- Econ 232 (81232) Case Studies in Labor Relations
- Hist 244 (83244) History of Urban America

MECHANICAL DESIGN TECHNOLOGY CURRICULUM

Associate Degree Program

This program is designed to equip the graduate with one of the most sought-after technical skills in this area—mechanical drafting. In addition to placing lines on the drawing board, however, the designer requires a broad technical knowledge to be able to select a solution to a problem from many alternatives. He must draw from a knowledge of metallurgy, power systems, control systems and circuitry, and mechanics of machine elements to produce the safest and most reliable design at the least cost.

First Semester	Sem Hrs
Dr 105 (93105) Industrial Drafting	3
Mech Tech 111 (97111) Manufacturing Processes	3
Mech Tech 213 (97213) Machine Tools	3
Math 111/112 (58111/58112) Applied Algebra	4
Math 105 (58105) Electronic Calculating Procedures or Math 106 (58106) Slide Rule	1
Eng 111 (20111) Freshman Composition	3
	17

Second Semester

Dr 106 (93106) Intermediate Industrial Drafting	3
Mech Tech 214 (97214) Advanced Machine Tools	3
Math 113 (58113) Applied Trigonometry	2
Phys 101 (79101) Applied Physics	5
Eng 113 (20113) Technical Writing	3
	16

Third Semester

Dr 256 (93256) Descriptive Geometry	3
Mech Tech 221 (97221) Materials and Metallurgy	3
Mech Tech 250 (97250) Statics and Strength of Materials	3
EIn Tech 235 (95235) Electrical Circuits	4
PE—Elective—Activity	1
	14

Fourth Semester

Dr 257 (93257) Advanced Industrial Drafting	3
Mech Tech 205 (97205) Basic Kinematics	3
Mech Tech 220 (97220) Introduction to Fluid Power	3
Pol Sci 103 (85103) Introduction to American Government	3
Psy 101 (86101) Applied Psychology	3
PE—Elective—Activity	1
	16

MECHANICAL ENGINEERING TECHNOLOGY CURRICULUM

Associate Degree Program

This program is designed to equip the graduate with knowledge and skills to work as a technician in a metallurgical or product test laboratory, as a field technician, as an engineering aide in manufacturing or product engineering, in quality control, or in sales and service. Today, industry places responsibilities on this two-year graduate which were unique to four-year graduate engineers only a few years ago. Responsibilities as a lab technician may include not only setting up a test apparatus and running tests on an experimental product, but also writing the report and making recommendations.

First Semester	Sem Hrs
Mech Tech 111 (97111) Manufacturing Processes	3
Dr 105 (93105) Industrial Drafting	3
Math 111/112 (58111/58112) Applied Algebra	4
Math 105 (58105) Electronic Calculating Procedures or Math 106 (58106) Slide Rule	1
Eng 111 (20111) Freshman Composition	3
PE—Elective—Activity	1
	15

Second Semester

Mech Tech 213 (97213) Machine Tools	3
Dr 106 (93106) Intermediate Industrial Drafting	3
Math 113 (58113) Applied Trigonometry	2
Math 115 (58115) Applied Statistics	2
Phys 101 (79101) Applied Physics	5
	15

Third Semester

Mech Tech 220 (97220) Introduction to Fluid Power	3
Mech Tech 221 (97221) Materials and Metallurgy	3
Mech Tech 251 (97251) Mechanics	3
EIn Tech 235 (95235) Electrical Circuits	4
Eng 113 (20113) Technical Writing	3
PE—Elective—Activity	1
	17

Fourth Semester

Mech Tech 205 (97205) Basic Kinematics	3
Mech Tech 252 (97252) Strength of Materials	3
Mech Tech 256 (97256) Machine Design	3
Psy 101 (86101) Applied Psychology	3
Pol Sci 103 (85103) Introduction to American Government	3
	15

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Certificate Program

This program leads to jobs in rough carpentry and house framing. The graduate may be self-employed, or find employment with a contractor or a building supply center. This pre-empt's years of apprenticeship in the construction field.

First Semester	Sem Hrs
RC 101 (98101) Construction Print Interpretation	3
RC 102 (98102) Building Materials	4
RC 103 (98103) Framing Square	5
RC 104 (98104) Construction Laboratory I	2
	14
Second Semester	
RC 105 (98105) Building Site Surveying	5
RC 106 (98106) Concrete Slab Work	4
RC 107 (98107) Footings and Foundations	5
	14
Third Semester	
RC 201 (98201) Rough Framing and Outside Finishing	4
RC 202 (98202) Building Materials Estimation	3
RC 203 (98203) Construction Laboratory II	4
	11

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Associate Degree Program

This program leads to employment in general residential contracting, finish carpentry, or building supply center management. This two-year program pre-empt's many years of apprenticeship in the construction field. In addition, it offers the breadth in education necessary for a successful self-employed business or for lumberyard management. A graduate may also continue his education at other institutions and receive a baccalaureate degree in teaching, management, or sales.

First Semester	Sem Hrs
RC 101 (98101) Construction Print Interpretation	3
RC 102 (98102) Building Materials	4
RC 103 (98103) Framing Square	5
RC 104 (98104) Construction Laboratory I	2
PE—Elective—Activity	1
	15

Second Semester

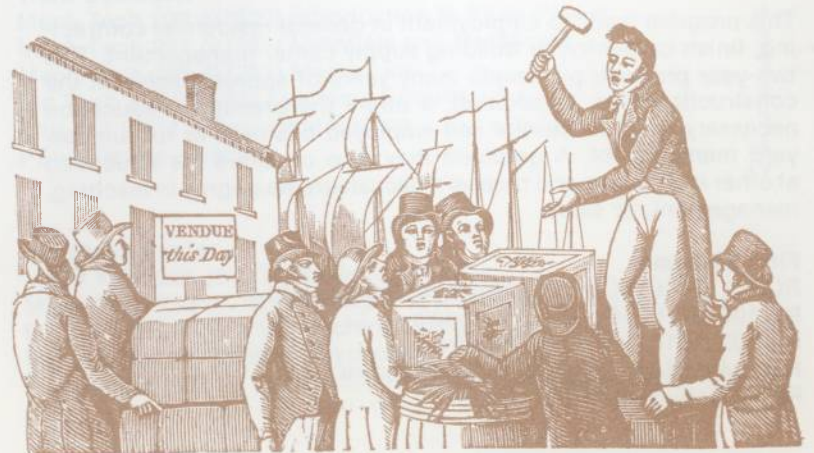
RC 105 (98105) Building Site Surveying	5
RC 106 (98106) Concrete Slab Work	4
RC 107 (98107) Footings and Foundations	5
Eng 111 (20111) Freshman Composition	3
	17

Third Semester

RC 201 (98201) Rough Framing and Outside Finishing	4
RC 202 (98202) Building Materials Estimation	3
RC 203 (98203) Construction Laboratory II	4
English Elective	3
Pol Sci 103 (85103) Introduction to American Government	3
	17

Fourth Semester

RC 204 (98204) Inside Finishing and Hardware	4
RC 205 (98205) Cabinet Making and Millwork	4
RC 206 (98206) Electrical-Mechanical-Plumbing Equipment	4
Psych 101 (86101) Applied Psychology	3
PE—Elective—Activity	1
	16



COURSE DESCRIPTIONS

Courses in a particular subject field are distinguished by identifying numbers and course titles. The credit value of each course is indicated in semester hours following the title of the course.

The course numbering system is as follows:

1. Courses numbered in the 100 series carry credit, however not all such courses are applicable to associate degree programs. (See Programs of Study Section.)

2. Courses numbered above 200 are intended chiefly for sophomores but may be elected by freshmen in some cases.

3. The 290-299 courses designate specific projects rather than specific courses.

291—Independent Study—Special study on an independent basis.

292—Travel—Foreign and Domestic.

293—Special Projects or Topics—Offered as a regular class to more than one student.

294—Seminar—Offered as a regular class to more than one student. (Numbers 293 and 294 appear on the schedule of classes for a given semester.)

295 through 299 are assigned to a given course as the need arises.

Those courses which have definite prerequisites are so indicated, otherwise there is no prerequisite.

The first number in parentheses following the course description indicates the number of lecture hours per week, and the second number indicates the number of laboratory hours per week.

Most of the courses listed will be offered during a complete academic year. A schedule of classes is issued in March for the following Spring and Fall semesters, and in October for the following Winter semester.

If the student needs additional information regarding courses or transfer credit he should consult his adviser or the Student Services Office.

Subject matter groupings under each division are arranged in alphabetical order as follows:

Business Division

Accounting
Business Machines
Cooperative Education
Data Processing
Distributive Education
General Business
Interior Decoration
Fashion
Fashion and Fabrics

Real Estate

Secretarial Science
English Division
English
Education
Health, Physical Education and
Recreation Division
Activity Courses
Theory Courses
Allied Health Programs

Allied Health
Dental Assistant
Radiologic Technology

Science Division

Agriculture
Aviation
Biology
Chemical Technology
Chemistry
Fire Protection
Geography
Geology
Physical Science
Physics

Humanities Division

Art
Languages
French
German
Russian
Spanish
Library Science

Music
Philosophy
Photography
Radio-Television
Speech

Mathematics Division
Nursing Division

Social Science Division

Economics
History
Labor Relations
Law Enforcement
Political Science
Psychology
Sociology

Technical Division

Architecture
Automotive
Drafting
Electronics
Industrial Supervision
Mechanical
Residential Construction

BUSINESS DIVISION

Division Chairman—Dale F. Keyser, Professor

Professor

Floyd A. Feusse
Marjorie M. Leeson

Associate Professor

Frances B. Gainey
Peggy E. Hammontree
William R. Hieber
Isaac W. J. Keim, III
Robert N. Lees
Dennis E. McNeal

Instructor

Suzanne Bush
Richard J. Howden

Lecturer

Elsie L. Morse

Assistant Professor

Robert M. Boeke
James A. Christensen
Carol A. Jacobs
Donna M. McCloy
Donald J. Muller
Richard F. Niemann
Betty J. Roberts
Lois W. Sears
Rhosan D. Stryker
Iva W. Ware

ACCOUNTING

Acct 101 (01101) Applied Accounting

4 Sem Hrs

An elementary course designed for students who wish to take only one course in the accounting field in order to familiarize themselves with basic accounting practices and procedures. Includes accounting cycle, financial statements, special journals, petty cash fund, bank reconciliation statement, payroll accounting, and the preparation of a practice set. Credit will not be given for both Acct 101 and Acct 111. (4-0)

Acct 111 (01111) Introductory Accounting

4 Sem Hrs

Introduces concepts of accounting as related to the double entry process of recording data in various journals, posting to general and special ledgers, preparation of worksheet and periodic financial statements. Elements studied are assets, liabilities, proprietorship, income, expense, depreciation. Accruals, deferrals, and adjustments are also covered. Completion of a practice set is required. Credit will not be given for both Acct 101 and Acct 111. (4-0)

Acct 112 (01112) Introductory Accounting

4 Sem Hrs

Prerequisite: Accounting 111. Includes the voucher system; payroll, partnership formation and procedures; corporate formation, records, surplus, dividends, stocks and bonds. (4-0)

Acct 113 (01113) Social Security and Payroll Accounting

2 Sem Hrs

Prerequisite: Accounting 111 or Accounting 211. Considers Federal Social Security laws and State Unemployment Compensation laws as applied to business. Automated payroll machines and systems are introduced. A brief survey of other Michigan tax laws is included. (2-0)

Acct 211 (01211) Principles of Accounting

4 Sem Hrs

Prerequisite: None. Introduces the functions of accounting, data accumulation, the concept of the accounting cycle, and the basic procedures for recording business data. A study of the accrual concept and related documents, formation of a corporation, the single proprietorship and partnership, the measurement of earnings, and the control of data. (4-1)

Acct 212 (01212) Principles of Accounting

4 Sem Hrs

Prerequisite: Accounting 211. A study of earnings determination, assets and liability valuation, and internal accounting for management. Topics studied are: cash and cash control, receivables and sales revenue, investments, inventories and cost of goods sold, plant and intangible assets, corporation bonds, appraising and controlling departmental operations, basic cost concepts and systems for accumulating costs, incremental analysis, capital expenditure decisions, budgeting, funds flow, cash flow, subsidiary ledgers, voucher system, single proprietorships and partnerships. (4-1)

Acct 213 (01213) Cost Accounting

3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Includes job order, process, standard, direct and budgetary costing procedures. Mini-practice sets for job order and process costing are completed. (3-0)

Acct 214 (01214) Advanced Cost Accounting

3 Sem Hrs

Prerequisite: Accounting 213. Emphasis on the role of cost and profit data as applied to the decisions of management. Subjects treated: Estimated cost, budgetary control and flexible budgets, analysis and control of distribution costs, cost-profit-volume analysis, differential cost analysis, return on capital employed, and pricing policies. (3-0)

Note: Senior colleges may prefer to have their accounting majors take this advanced course at their institutions.

Acct 215 (01215) Federal Tax Accounting

3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Studies the Federal Income Tax law. Emphasis is placed on the application to the individual and the single proprietorship business, although some references are made to the corporation. The individual tax return is prepared. (3-0)

Acct 217 (01217) Auditing Theory and Procedure

3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Surveys principles and procedures of auditing; attention is given to auditing concepts, professional ethics and responsibility, the audit program, auditing procedures, working papers, and simple audit reports. Completion of an integrated case study which involves the preparation of the working papers and the report for a complete audit is required. (3-0)

Acct 223 (01223) Intermediate Accounting

4 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Added development of accounting knowledge previously gained in introductory courses. In-depth study of assets with emphasis on definition, valuation and reporting procedures. (4-0)

Acct 224 (01224) Intermediate Accounting

4 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Added development of accounting knowledge gained in introductory courses. In-depth study of liabilities and stockholders' equity with emphasis on definition, valuation and reporting procedures. Special reporting problems are covered. (4-0)

Acct 290-299 (01290-01299) Special Projects in Accounting

(See page 57)

REAL ESTATE

RE 181 (03181) Real Estate Principles I

3 Sem Hrs

Prerequisite: None. This fundamental course is planned to provide a general overview of real estate to those persons contemplating entering the business. Content will include scope and organization, economics, legal aspects, the nature of real property, ownership, and property rights. Approved for G.R.I. I. (3-0)

RE 182 (03182) Real Estate Principles II

3 Sem Hrs

Prerequisite: Real Estate 181 or field experience. This course is a continuation of Real Estate 181 designed as a general knowledge course for those entering the profession, as well as those presently in the business who do not have formal training in real estate. Considers financing, brokerage, future trends, and property evaluation. Approved for G.R.I. II. (3-0)

RE 183 (03183) Real Estate Procedure

3 Sem Hrs

Prerequisite: Real Estate 181 and Real Estate 182 (Real Estate 182 and Real Estate 183 may be taken concurrently). The student will study day-to-day operations in real estate roles and brokerage, including listing, prospecting, advertising, closing, sales techniques, escrow and ethics. This course covers much of the material required in the broker's exam. (3-0)

RE 281 (03281) Real Estate and Government

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182. The effect of government regulations upon real estate will be covered in detail, as well as open housing, urban renewal, pollution, and zoning. The course will also cover real estate associations such as the National Association of Real Estate Boards, National and Multiple Listings Services, National Association of Home Builders, and others. (3-0)

RE 282 (03282) Real Estate Finance

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182. Regulations and procedures for financing real estate; types of lenders; methods of qualifying for loans; uses of mortgages, trust deeds, leases, mathematics of real estate finance and financial analysis of real properties. (3-0)

RE 283 (03283) Real Estate Appraisal

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182. Residential appraisal, principles of real estate valuations, cost market data, summation and sales analysis, methods of appraising, estimating, current trends and techniques, single and multiple family dwellings, vacant land. Actual field experience is included. (3-0)

RE 290-299 (03290-03299) Special Projects in Real Estate

(See page 57)

COOPERATIVE EDUCATION

Coop Ed 121 (05121) Cooperative Office Education

3 Sem Hrs

Prerequisite: Employable skill and consent of coordinator. Places the student in a school or business office for supervised, on-the-job experience. Evaluations are made by the employer and the coordinator. Class meets with the coordinator one hour each week. Term paper and/or project reports required of each student. (1-15)

Coop Ed 122 (05122)

Cooperative Office Education

3 Sem Hrs

Prerequisite: Cooperative Education 121. A continuation of Cooperative Education 121, with additional responsibilities at the work station. Term paper or project reports required of each student. (1-15)

Coop Ed 125 (05125)

Cooperative Distributive Education

3 Sem Hrs

Prerequisite: Employable skill and consent of coordinator. Places the student in a distributive occupation for supervised, on-the-job experience. Evaluations are made by the employer and the coordinator. Class meets with the coordinator one hour each week. Term paper and/or project reports required for each student. (1-15)

Coop Ed 126 (05126)

Cooperative Distributive Education

3 Sem Hrs

Prerequisite: Cooperative Education 125. A continuation of Cooperative Education 125, with additional responsibilities at the work station. Term paper or project reports required of each student. (1-15)

Coop Ed 221 (05221)

Cooperative Office Education

3 Sem Hrs

Prerequisite: Cooperative Education 122. A continuation of Cooperative Education 122, with the introduction of new duties or responsibilities; additional research is done. (1-15)

Coop Ed 222 (05222) Cooperative Office Education

3 Sem Hrs

Prerequisite: Cooperative Education 221. A continuation of Cooperative Education 221, with added duties or responsibilities; further research. (1-15)

Coop Ed 225 (05225)

Cooperative Distributive Education

3 Sem Hrs

Prerequisite: Cooperative Education 126. A continuation of Cooperative Education 126, with the introduction of new duties or responsibilities; more research is done. (1-15)

Coop Ed 226 (05226)**Cooperative Distributive Education**

3 Sem Hrs

Prerequisite: Cooperative Education 225. Continuation of Cooperative Education 225, with added duties or responsibilities; further research. (1-15)

Coop Ed 290-299 (05290-05299)**Special Projects in Cooperative Education**

(See page 57)

DATA PROCESSING**Data Proc 132 (07132)****Computers, Their Use and Potential**

3 Sem Hrs

Upon completion of the course the student will be able to communicate effectively with computer personnel and understand the basic technology of computers. An awareness will be developed in the student of the impact of computer technology on business, industry, government, and the individual. Each student will research the present and potential impact of the computer on his major area of study. (3-0)

Data Proc 133 (07133) Introduction

3 Sem Hrs

Prerequisite: None. Provides a basic orientation to the field of computers and their usage. Scope of the course includes the basic concepts of data processing through study of unit record and computerized systems. The history, hardware and software, internal storage, input and output devices, and the characteristics of languages for third generation computers are studied. Programs and an independent project are written, compiled, and tested in RPG on an IBM 360-40. (3-1)

Data Proc 134 (07134)**Data Processing Machine Operation**

3 Sem Hrs

Prerequisite: Data Processing 133. The student will be able to operate the 360/40 configuration, as well as other peripheral equipment, and by utilization of the appropriate manuals, run sheets, and other documentation setup typical jobs and respond correctly to interrupts. An understanding of the basic concepts of operating systems, minicomputers and the correlation between operations, systems analysis, programming, and data control will be obtained. (3-1)

Data Proc 179 (07179) Key Punching and Verifying

2 Sem Hrs

Prerequisite: Business Machines 171, or equivalent. Builds skills in key punching and verifying the punch card. Students who successfully complete the course will have sufficient knowledge to do productive work on the key punch and verifier. A background in terminology and use of the punched card is provided. (2-2)

Data Proc 235 (07235) Data Processing Applications

3 Sem Hrs

Prerequisite: Data Processing 133. A study of data processing systems and procedures involving analysis of various existing data processing applications in business and industry. Includes a study of integrated or total management information and data processing systems. Emphasis is given to developing detailed procedures in various areas of management. The course is designed to study the three phases necessary: Analysis or present information flow; System specification and equipment; Implementation and documentation of the system. (3-0)

Data Proc 239 (07239)**Basic Assembler Language for IBM 360/270**

3 Sem Hrs

Prerequisite: Data Processing 133. The early portion of the class will deal with the primary machine instructions, their usage and basic rules. The major portion of the course will concern itself with programming, programming techniques, writing and testing typical BAL applications, correlation with other 360 languages and how BAL instructions are generated. (3-0)

Data Proc 243 (07243)**Report Program Generator Programming**

3 Sem Hrs

Prerequisite: Data Processing 133. File, input, calculation and output specifications statements for reporting and routine accounting applications will be covered. Programs will be written, compiled, and tested. (3-0)

Data Proc 245 (07245) COBOL Programming

3 Sem Hrs

Prerequisite: Data Processing 133. The early part of the course will include the advantages of COBOL, its strength, potential applications, and basic rules. The major portion of the course will concern itself with programming, compiling, and testing typical applications. (3-0)

Data Proc 253 (07253) Advanced RPG

3 Sem Hrs

Prerequisite: Data Processing 243 or consent of instructor. The student will be able to design, code, compile, test, and document programs using RPG I and RPG II which involves advanced programming concepts. (3-0)

Data Proc 255 (07255) Advanced COBOL

3 Sem Hrs

Prerequisite: Data Processing 245 or consent of instructor. The student will be able to design, code, compile, test, and document programs using COBOL which involve advanced programming concepts. (3-0)

Data Proc 256 (07256) Advanced PL/I

3 Sem Hrs

Prerequisite: Data Processing 246 or consent of instructor. The student will be able to design, code, compile, test, and document programs using PL/I which involve advanced programming concepts. (3-0)

Data Proc 259 (07259)**Advanced Assembler Concepts**

3 Sem Hrs

Prerequisite: Data Processing 239 or consent of instructor. The student will be able to design, code, compile, test, and document programs using an assembler language. The problems will involve advanced programming concepts. (3-0)

Data Proc 246 (07246) PL/I Programming

3 Sem Hrs

Prerequisite: Data Processing 133. The early part of the course will include the advantages of PL/I, potential applications and basic rules. The major portion of the course will concern itself with programming, compiling, and testing typical applications. (3-0)

Data Proc 250 (07250)**Data Processing Management**

3 Sem Hrs

Prerequisite: None. Course covers contemporary problems in data processing management. Scope of the course will include the selection and training of data processing personnel, areas of responsibility in data processing, program controls, selection of services and equipment, and standards of documentation. (3-0)

Data Proc 251 (07251) Systems Analysis and Design

3 Sem Hrs

Prerequisite: Data Processing 133. It is also essential that the student has a good understanding of both accounting and programming. Suggested: Data Processing 250. Course covers the fundamental concepts of designing a system to effectively utilize data and to facilitate the functions of management. A case study will be used to illustrate the design, implementation, and documentation of a system. (3-0)

Data Proc 290-299 (07290-07299) Special Projects in Data Processing

(See page 57)

FASHION AND FABRICS**F F 110 (08110) Apparel Construction and Analysis**

4 Sem Hrs

In this course the student will learn analysis and application of professional procedures in appraising and constructing a garment; how to use patterns; proper fabric selections; pattern layout, marking, cutting, construction and professional finishes; advanced construction methods in collar applications; sleeve construction, and lining techniques. (4-0)

F F 120 (08120) Apparel Tailoring

4 Sem Hrs

Prerequisite: Fashion and Fabrics 110 or permission of instructor. This course is designed for the student who already has basic clothing construction skills. The student will learn proper figure measurement and analysis; correct pattern and fabric selection for a coat or suit; pattern alteration techniques; fabric preparations;

use a test muslin; special innergarment construction techniques; construction of lapel collars, set-in sleeves and linings; and special methods of attaching fasteners to garments to achieve professional-looking apparel. (4-0)

F F 210 (08210) Apparel Pattern Drafting and Design

4 Sem Hrs

Prerequisite: Fashion and Fabrics 110 or equivalent. The student will learn basic principles of pattern drafting; pattern alterations through the flat pattern and pivot methods; elements of a proper garment fit utilizing test muslins; trade information on figure types, sizing and pattern terminology, the basic sloper will be used in designing and drafting hip length slopers, collars, sleeves, bodices, and skirts. (4-0)

F F 220 (08220) Advanced Apparel Tailoring

4 Sem Hrs

Prerequisites: Fashion and Fabrics 120 or equivalent. The student in Advanced Apparel Tailoring will study couturier-design and construction techniques. The student will construct a garment from a designer pattern of their choice, utilizing couturier structural and decorative details. (4-0)

F F 230 (08230) Applied Apparel Design Construction and Accessories

3 Sem Hrs

Prerequisite: Fashion and Fabrics 220 or equivalent. The student will learn to take an apparel design from idea inception, through pattern construction, through a test muslin to the completed apparel item. Proper and appropriate accessorizing of garments will be taught including millinery, jewelry, shoes, handbags, and scarfs. (3-0)

F F 290-299 (08290-08299) Special Projects in Fashion and Fabrics
(See page 57)**DISTRIBUTIVE EDUCATION****Dist Ed 141 (09141) Transportation and Traffic Management**

3 Sem Hrs

Prerequisite: None. Provides information, practice, and techniques necessary to qualify for position on the Traffic Management Divisions of larger industry and carrier companies. Covers history of American transportation systems, developments leading to Federal regulation of carriers other than railroad, classification of freight rates and tariffs, and shipping documents, and their application in freight claims. (3-0)

Dist Ed 142 (09142) Transportation and Traffic Management

3 Sem Hrs

Prerequisite: Distributive Education 141. Deals with tariff circulars, construction and filing of tariffs, freight rates and tariffs, terminal facilities and switching, demurrage, transit privileges warehousing and distribution, materials handling and packaging. (3-0)

Dist Ed 143 (09143) Advertising 3 Sem Hrs
Prerequisite: General Business 153. Stresses the manifold goals of advertising and its role in a marketing communications program as needed by tomorrow's professional managers. An appreciation of the rationale and strategies behind advertising campaigns is presented. (3-0)

Dist Ed 145 (09145) Sales 3 Sem Hrs
Prerequisite: None. Brings the marketing concept into sales education. Information on psychology, sociology, economics, and communications is employed in a contemporary concept of salesmanship. (3-0)

Dist Ed 155 (09155) Textiles 3 Sem Hrs
Prerequisite: Fashion 150 or Interior Decoration 100 or permission of instructor. An in-depth study of natural and man-made fibers, their properties and unique characteristics. Identification of fabrics used in wearing apparel and interior decoration; fabric production, performance and use; final processes and finishes; the study of weaves, pattern, and color. (3-0)

Dist Ed 241 (09241) Transportation and Traffic Management 3 Sem Hrs
Prerequisite: One semester of Transportation and Traffic Management or consent of Division Chairman. Includes through routes and rates, milling in transit, technical tariff and rate interpretation, overcharges and undercharges, losses and damages, and a review of decisions of the Interstate Commerce Commission. (3-0)

Dist Ed 242 (09242) Transportation and Traffic Management 3 Sem Hrs
Prerequisite: Transportation and Traffic Management 241 or consent of Division Chairman. Includes evaluation of the Interstate Commerce Act, its interpretation and application, procedures and practice before the Interstate Commerce Commission, Statutory authority for awarding damages, and a review of the Interstate Commerce Commission. (3-0)

Dist Ed 243 (09243) Marketing 3 Sem Hrs
Prerequisite: General Business 153. Provides an understanding and interpretation of the marketing system and its importance in the economy and the place of the marketing function in business management. The marketing framework is established and a basic understanding of the processes, functions, and channels is presented. Role of the Government in marketing procedure is emphasized. (3-0)

Dist Ed 245 (09245) Principles of Management 3 Sem Hrs
Prerequisite: General Business 153. Designed to train students in the analysis of management problems and the synthesis of solutions. Theories of management practices are discussed and fundamentals of administrative, executive, and staff management ex-

plained. Emphasis is placed on preparation of information required for decision making. (3-0)

Dist Ed 247 (09247) Retailing 3 Sem Hrs
Prerequisite: General Business 153. Investigates methods used by retail businesses to plan the marketing of merchandise in relation to time, place, quantities, and price. The importance of advertising, sales promotion, layout and display, accounting procedures and controls, use of financial data and human resources is recognized. (3-0)

Dist Ed 253 (09253) Applied Marketing Strategies—A Case Study Approach 3 Sem Hrs
Prerequisite: Distributive Education 243 or permission of instructor. A case study approach designed to give students experience in the development and implementation of marketing strategies as they apply to real life business situations. All major areas of marketing such as retailing, industrial sales and distribution, and sales and advertising promotional activities will be involved. The relationship that each area has individually and collectively to each case study presented will be incorporated into the student's problem solving experiences. (3-0)

Dist Ed 290-299 (09290-09299) Special Projects in Distributive Education
(See page 57)

INTERIOR DECORATION

Inter Decor 100 (10100) Introduction to Interior Decoration 3 Sem Hrs
This course will cover the aims, principles, and means of design. Light and color will be thoroughly explored including color theory and color planning. Home planning will be analyzed in relation to activities, space, and equipment. Enrichment of space through the use of accessories, plants, paintings, prints, and sculpture will be studied. The student will also be introduced to lighting, heating, ventilation, and acoustics. (3-0)

Inter Decor 150 (10150) Decorative Treatment of Walls, Windows, Floors, and Ceilings 3 Sem Hrs
A course designed for students interested in learning about the materials used in the treatment of the architectural elements of a room. Included is a study of the finishing treatment of walls, floors, ceilings, and windows. Also included are practical methods of determining accurate measurements and cost calculations. (3-0)

Inter Decor 170 (10170) Fundamental Theories of Fashion Design and Merchandising

3 Sem Hrs

A study of beginning fashion merchandising, tracing the evolution of design concepts from pattern development to retailer. A study and understanding of the product that is to be merchandised. The course includes principles of design; construction details and terminology; the relationship of size, figure types, and styling; fashion pricing and market comparisons; and the forces influencing fashion. (3-0)

Inter Decor 200 (10200) Space Analysis In Interior Decoration

1 Sem Hr

Prerequisite: Interior Decoration 100. Space Analysis is designed to give the student a basic knowledge of blueprint (working drawings) reading. It includes analysis of space-size, shape, intended use and relationship to other parts of the building. The student will work from schematic arrangements to more detailed arrangements and will present plans for several model situations. This course is essential for persons preparing for the interior decoration field. (1-0)

Inter Decor 210 (10210) Furniture

3 Sem Hrs

Prerequisite: Interior Decoration 100. This course is designed to provide depth and insight into proper furniture selection and arrangement. Emphasis will be on analysis of individual, family and business furniture needs and providing utilitarian as well as aesthetic solutions. A brief history of furniture from Renaissance through Modern will be covered. Construction of case pieces and upholstery in relation to style, practicality and economy will be studied. (3-0)

Inter Decor 230 (10230) Applied Interior Decoration

3 Sem Hrs

Prerequisite: Interior Decoration 160. In this course the student will learn how to deal effectively with special problem areas in interior decoration. The student will learn how to work with clients, how to interview and determine needs and wants and translate the information into practical decorating solutions, including shopping for appropriate floor and wall coverings, furniture, window treatment and accessories. The student will work with an actual client family, be given an established budget, prepare and give appropriate oral and visual presentations to the client. (3-0)

Inter Decor 250 (10250) Seminar in Interior Decoration

2 Sem Hrs

Field trip to the market (Grand Rapids, Chicago, or New York). Study the sources of interior decoration supply for furniture, lamps, carpeting, draperies, and accessories. (2-0)

Inter Decor 290-299 (10290-10299) Special Projects in Interior Decoration

(See page 57)

FASHION

Fash 150 (11150) History and Dynamics of Fashion

3 Sem Hrs

Prerequisite: None. This is an introductory course to the clothing fashion industry. The student will study the impact and inter-relationships of costume and culture of western civilization from ancient times to the present. Emphasis will be placed on contemporary designers. The components of the fashion industry today, the primary, secondary, and consumer markets are explored with particular emphasis on career possibilities within these areas. (3-0)

Fash 151 (11151) Display

3 Sem Hrs

Prerequisite: Art 115 and F.M. 170 or I.D. 100 or permission of the instructor. Display, as a major component of sales promotion, is fully explored in this course. Color and basic design principles will be studied in terms of their application to display. Analysis of the function, types and tools of display will be included. Students will design and coordinate window and interior displays. The steps in planning and coordinating sales promotions will be covered. Emphasis will be placed on learning how to plan, produce and evaluate effective displays. (3-0)

Fash 170 (11170) Fundamental Theories of Fashion Design and Merchandising

3 Sem Hrs

Prerequisite: Fashion 150. A study of beginning fashion merchandising, tracing the evolution of design concepts from pattern development to retailer. A study and understanding of the product that is to be merchandised. The course includes principles of design; construction details and terminology; the relationship of size; figure types, and styling; fashion pricing and market comparisons; and the forces influencing fashion. (3-0)

Fash 250 (11250) Seminar in Clothing Fashion

2 Sem Hrs

A market trip (New York, Chicago) to cover manufacturing outlets as well as retail. (2-0)

Fash 290-299 (11290-11299) Special Projects in Fashion

(See page 57)

GENERAL BUSINESS

Gen Bus 110 (12110) Business Computations

3 Sem Hrs

Prerequisite: Math 100 if mathematics placement test score is unsatisfactory. Course covers many of the principles necessary to an understanding of the math of the business world. Includes various methods of computing interest and bank discounts; installment buying; F.I.C.A., Federal Income Taxes and other payroll deductions; markup, cost and selling prices; various wage payment systems; depreciation; sales and property taxes, insurance; measures of central tendency. (3-0)

Gen Bus 151 (12151) Business Communications 3 Sem Hrs
Prerequisite: Business Machines 171 or its equivalent, or Business Machines 171 taken concurrently. Teaches principles of effective oral and written communications. Practice provided in letter writing, preparation of management message, compilation and completion of job applications, communications by telephone and wire, techniques of dictating, courteous interchange of thought. (3-0)

Gen Bus 152 (12152) Business Communications 3 Sem Hrs
Prerequisite: General Business 151. Studies the influence of oral and written communications upon human relations in business, and applies effective methods that may be used. Emphasis placed on tone, form, accuracy, clarity, appeal and psychology in writing letters and reports. Designed also for increasing the business vocabulary, and understanding current business literature. (3-0)

Gen Bus 153 (12153) Introduction to Business 3 Sem Hrs
Prerequisite: None. Clarifies the role of business in modern society. The significant relationships which exist between business and the social, political and economic environment are stressed. The interconnection between business and other institutions in our environment is emphasized. (3-0)

Gen Bus 157 (12157) Filing and Records Management 3 Sem Hrs
Prerequisite: None. Emphasis is placed on practical application of the basic rules of filing in alphabetic, numeric, geographic, and subject filing systems. Includes also a study of the complete records cycle, procedures for operation and control of filing methods and records, selection of equipment and supplies, supervision of personnel, and an understanding and awareness of the increasingly important area of records management. (3-0)

Gen Bus 251 (12251) Business Law 3 Sem Hrs
Prerequisite: None. Introduces the court system; a study of contracts, agency, employment, personal property, and bailments. (3-0)

Gen Bus 252 (12252) Business Law 3 Sem Hrs
Prerequisite: General Business 251 or consent of the Chairman of the Business Division. A study of corporations, real property, negotiable instruments, sales, security devices, and trusts and estates. (3-0)

Gen Bus 255 (12255) Office Administration 3 Sem Hrs
Prerequisite: General Business 151 and General Business 153. Presents the principles of office supervision together with concepts of planning, organizing, motivating, and controlling. Recognition is given to the role of human relations in effecting efficient harmonious activities. (3-0)

Gen Bus 256 (12256) Personnel Management 3 Sem Hrs
Prerequisite: General Business 255 or permission of instructor. Covers the role of personnel administration in large and small organizations. Develops techniques for hiring, training, developing, motivating, and evaluating of personnel. Covers wage and salary and fringe benefit administration. (3-0)

Gen Bus 290-299 (12290-12299) Special Projects in General Business
(See page 57)

SECRETARIAL SCIENCE

Sec Sci 110 (15110) Clerical Procedures I 3 Sem Hrs
Prerequisites: Business Machines 170 or 171 or its equivalent; can be taken concurrently. Formation and correlation of skills in the areas of duplication I, filing (alphabetic and numeric), Business English I, Personal Development I, and mail handling, employment process, and Typing I. (3-0)

Sec Sci 111 (15111) Clerical Procedures II 3 Sem Hrs
Prerequisites: Secretarial Science 110; Business Machines 172 or its equivalent, or Business Machines taken concurrently. Formation and correlation of skills in the areas of recordkeeping, telephone techniques, and receptionists' duties. Advanced skill building in the areas of duplication, business English, personal development, and typing (includes transcribing). (3-0)

Sec Sci 161 (15161) Beginning Shorthand 4 Sem Hrs
Prerequisite: None. Theory of Gregg Shorthand. Diamond Jubilee Method. Includes development of skill in reading, intensive study of brief forms, writing of practiced and new materials, pre-transcription training. Laboratory assignments required. (4-1)

Sec Sci 162 (15162) Intermediate Shorthand 4 Sem Hrs
Prerequisites: Secretarial Science 161 and Business Machines 171, or equivalents. Must be accompanied by Business Machines 172 or 273. Designed to increase speed in taking new-matter dictation. Builds transcription skills, includes English, grammar review, vocabulary study, and spelling. Laboratory assignments required. (4-1)

Sec Sci 181 (15181) Beginning Stenographic Machine Shorthand 4 Sem Hrs
Prerequisite: Business Machines 171 or its equivalent or consent of Division Chairman. Theory is presented through a system of phonetic writing employing the Stenograph machine, which imprints

in English letters. Dictation given on practiced and new materials. The student should be able to take accurate notes at the rate of 60 to 80 words per minute. Transcription is introduced. (4-1)

Note: Additional stenographic machine shorthand courses will be added as needed.

Sec Sci 261 (15261) Secretarial Practices 3 Sem Hrs
Prerequisites: General Business 151 and Business Machines 172, or consent of Division Chairman. Broadens the secretary's concept of management in business. Attention given to developing an acceptable secretarial personality. Augments knowledge and skill in working with people, and in handling information in the areas of correspondence and reports, communications, calculating, mailing, filing. Related work assignments required. (3-0)

Sec Sci 263 (15263) Dictation and Transcription 4 Sem Hrs
Prerequisite: Secretarial Science 162. Emphasizes speed and accuracy in transcribing mailable letters. Extends the development of writing speeds on new-matter dictation. Introduces special techniques in handling office dictation. Laboratory assignments required. (4-0)

Sec Sci 264 (15264) Speed Building and Specialized Shorthand 3 Sem Hrs
Prerequisite: Secretarial Science 263 or consent of Division Chairman. Students are expected to attain high speed in taking and transcribing dictation. Offers specialized vocabularies and materials in the chemical, legal, medical, reporting, and technical fields, according to career interest of the student. Laboratory assignments required. (3-0)

Sec Sci 290-299 (15290-15299) Special Projects in Secretarial Science
(See page 57)

BUSINESS MACHINES

Bus Mach 170 (17170) Beginning Typewriting 2 Sem Hrs
Mastery of the keyboard and practice in basic skills and machine techniques of the touch system of typewriting, simple centering, tabulations, placement, manuscripts, and common letter forms. May be taken for personal use. (2-2)

Bus Mach 171 (17171) Refresher Typewriting 1 Sem Hr
A course in beginning typewriting for students who already know the keyboard. This course will include development of speed and skill in producing business letters, manuscripts, outlines, tabulations, word divisions, and centering skills. (Class meets for 7½ weeks.) (1-1)

Bus Mach 172 (17172) Intermediate Typewriting 3 Sem Hrs
Prerequisite: Business Machines 171 or its equivalent. Vocational training for business. May be taken for personal use. Development of accuracy and speed in typing business and personal letters, rough drafts, manuscripts, outlines, tabulations, and simple business forms. Introduction to duplicating processes. (3-0)

Bus Mach 175 (17175) Machine Calculation 2 Sem Hrs
Prerequisite: Proficiency in arithmetic. Deals with basic operations of calculators, electronic calculators, printing calculators, key-driven calculators, ten-key and full-key adding-listing machines. (2-1)

Bus Mach 176 (17176) Machine Calculation 2 Sem Hrs
Prerequisite: Business Machines 175. A continuation of Business Machines 175, with emphasis placed on vocational efficiency and speed of manipulation on the various calculators and printing calculators. (2-1)

Bus Mach 273 (17273) Advanced Typewriting 3 Sem Hrs
Prerequisite: Business Machines 172 or its equivalent. Vocational training is stressed. Emphasis is placed on developing excellence and refinement of vocational skills and office production jobs. Provides practice in typing communications used in differing professional and business fields. (3-0)

Bus Mach 274 (17274) Voice Transcription and Copying Machine Procedures 2 Sem Hrs
Prerequisite: Business Machines 172 or its equivalent. Provides: (1) Training in the skillful operation of voice transcription machines such as Dictaphone and IBM Executary; (2) Survey of copying machines, with practice in the preparation of materials, and operation of several commonly used machines. (2-2)

Bus Mach 290-299 (17290-17299) Special Projects in Business Machines
(See page 57)

ENGLISH DIVISION

Division Chairman—Gerald L. Hall, Associate Professor

Associate Professor

Maurice S. Alberda
Brendan R. Cahill
Genevra H. Grossman
William C. Harman
Otto E. Henning
Dr. Leticia S. Molter
Alice B. Ziegler

Assistant Professor

John F. Augustine
Dana E. Blackwell
Michael A. DeCarbo
Gerald V. Ellison
Joan B. Gronewold
Donald B. Halog
Mitchell H. Jarosz
Martha J. Keil
James M. McGinty
Fred W. Renker, Jr.
Gary B. Roelofs
Charlotte W. Seiler

Instructor

Thomas M. Gavin
David S. Habercom
Antonio Marquez
Charles R. Radey
Renee R. Smith
Leroy J. Spiller

Eng 101 (20101) Applied English Skills 5 Sem Hrs
Prerequisite: None. Instruction and experience in the skills of reading, writing, and oral communication with emphasis on practical use. This course fulfills the college English grade requirements for specific technical requirements. (5-0)

Eng 104 (20104) Techniques of Reading Comprehension 3 Sem Hrs
Reading skills necessary for college achievement will be presented and applied, with emphasis upon the development of vocabulary and comprehension of varied materials. Individual attention will be given to specific problems, however speed of reading will not be a primary concern. The credit hours may be counted toward total hours required for graduation but not toward fulfilling the English Composition requirement for any Associate Degree curriculum. (3-0)

Eng 109 (20109) English as a Second Language 5 Sem Hrs
A course designed to aid the speaker of English as a second language with intermediate and advanced English language skill. Study covers grammar, pronunciation, reading skills, composition and American culture. In-class oral drills, language laboratory experience, readings in American history and out-of-class composition will be the main activities. Students who take this course may complete their English requirement with English 111, Freshman Composition. (5-0)

Eng 110 (20110) Writing Techniques 2 Sem Hrs
Prerequisite: None. Offered in conjunction with specified sections of English 111. The course will provide special attention to particular problems and individual needs in written composition as determined in the coordinated English 111 section. The credit hours may be counted toward total hours required for graduation but not toward fulfilling the English Composition requirement for any Associate Degree Curriculum. (2-0)

Eng 111 (20111) Freshman Composition 3 Sem Hrs
Prerequisite: None. Development of competence in reading and writing with emphasis on various kinds of writing. (3-0)

Eng 112 (20112) Freshman Composition 3 Sem Hrs
Prerequisite: English 111. A continuation of English 111 with emphasis on reading literary selections as well as further practice in writing. (3-0)

Eng 113 (20113) Technical Writing 3 Sem Hrs
Prerequisite: English 111. Techniques for written presentation of technical material in formal and informal reports. The emphasis will be on general principles with specific applications in conjunction with technical courses or actual job experience. (3-0)

Eng 115 (20115) Basic Journalism Skills 3 Sem Hrs
Prerequisite: None. History and principles of journalism; introductory advertising, news gathering and reporting. Feature and editorial writing and the necessary skills needed in proof reading and editing are stressed. (3-0)

Eng 116 (20116) News Reporting 3 Sem Hrs
Prerequisite: None. Principles and practice of reporting for newspapers and other mass media. Study of history and ethics of journalism. (3-0)

Eng 124 (20124) Techniques of Rapid Reading 2 Sem Hrs
Prerequisite: Competency in the basic reading skills or English 104. The specialized procedures and methods that accelerate reading rate will be employed. Literal, critical, and effective comprehension skills will be developed through reading of fiction. The credit hours may be counted toward total hours required for graduation but not toward fulfilling the English Composition requirement for any Associate Degree Curriculum. (2-0)

Eng 211 (20211) Non-fiction Writing 3 Sem Hrs
Prerequisite: English 112 or permission of instructor. A view of non-fiction writing through study and use of contemporary forms of the essay, advertising, editorials, critical reviews, and articles for both general and specialized audiences. The emphasis is on improving ability to communicate ideas and experiences to a mass media audience. Especially helpful for those planning careers in which written communication is a prerequisite. (3-0)

Eng 217 (20217) Advanced Reporting 3 Sem Hrs
Prerequisite: English 116. Detailed journalistic techniques and news gathering methods; handling important and specialized assignments in government, politics, crime and courts, education, science and environmental areas, editorial writing, reviewing and criticism of the arts, columns. Class members work on the *Collegiate*. (2-2)

Eng 218 (20218) News Editing 3 Sem Hrs
Intensive training in publication style, including newspapers, magazines, the business and trade press, house organs, newsletters and specialized publications; news evaluation, copy reading, headline writing; basic typography; journalistic responsibilities, ethics and communication laws. Class members work on the *Collegiate*. (2-2)

Eng 220 (20220) Readings in Poetry 3 Sem Hrs
Prerequisite: English 112. The student will have the opportunity to survey the representative poetry of various cultures and periods with an emphasis on British and American poetry. The course is designed to help the student understand and enjoy one of humanity's oldest and yet continually new and exciting art forms. (3-0)

Eng 221 (20221) Readings in the Short Story 3 Sem Hrs
Prerequisite: English 112. In this course the student will read selected short stories of British, American, and other authors. In addition to increasing one's understanding of this relatively modern form, the student will explore ways in which the short story is personally meaningful in depicting our perception of ourselves and the world in which we live. (3-0)

Eng 222 (20222) Reading in the Novel 3 Sem Hrs
Prerequisite: English 112. From a reading of selected novels the student will develop understanding of the novel form. The student will also learn how to derive personal meaning and satisfaction from novels chosen from different times, places, and cultures. (3-0)

Eng 223 (20223) Readings in the Drama 3 Sem Hrs
Prerequisite: English 112. Through reading of selected plays—past and present, American, British, and other cultures, the student will gain insight into the cultural contexts in which plays have been

written and produced. The student will also discover how they represent significant expressions of humanity's response to experience and the world. (3-0)

Eng 224 (20224) Popular Literature 3 Sem Hrs
Prerequisite: English 112 or permission of instructor. An examination of a particular body of popular literature, organized by the selection of material either from the works of one author or one genre (e.g. Science Fiction, Black Humor, War Novel, etc.) Course content to be announced each semester prior to registration. (3-0)

Eng 226 (20226) Introduction to Film 3 Sem Hrs
The film as an art form and a mode of communication with special emphasis on developing standards of appreciation. Weekly screenings and discussion sessions will focus on understanding the medium's literary roots and on the creative process itself from original conception to script to sight and sound images. (3-0)

Eng 231 (20231) Modern Poetry 3 Sem Hrs
Prerequisite: English 112. A study of the background, the developments, and the current state of modern poetry, with emphasis on poems by American and British authors. (3-0)

Eng 241 (20241) Introduction to Mythology 3 Sem Hrs
Prerequisite: English 112. A study of the myths of Greece, Rome, and the Levant as they have appeared in *The Illiad*, *The Odyssey*, *The Metamorphoses*, *the Aeneid*, and *The Old Testament*, with emphasis on their relationship to modern literature. (3-0)

Eng 242 (20242) British Literature 3 Sem Hrs
Prerequisite: English 112. A selection of major British authors will be studied. Representative works from various periods will be read and analyzed. The student will learn to understand and critically appreciate the major ideas and literary forms of English literary history. (3-0)

Eng 245 (20245) Biblical Literature: Old Testament 3 Sem Hrs
This course will be a critical study of the literature of the Old Testament. It will treat the Old Testament Canon in its historical development, and examine both the literary styles and the changing theological and ethical ideas. (3-0)

Eng 246 (20246) Biblical Literature: New Testament 3 Sem Hrs
This course will be a critical study of the literature of the New Testament with some attention given to the Inter-testamental literature. The literature will be studied in terms of its historical development. Some attention will be given to the canonization of the New Testament, to the different literary styles and to the theological and ethical ideas. (3-0)

Eng 251 (20251) Children's Literature 4 Sem Hrs
Prerequisites: English 112 and speech course. A survey of literature for children in the elementary grades, aimed at developing techniques for using books with children, story telling, and the criteria for book selection. (4-0)

Eng 253 (20253) Creative Writing: Poetry 3 Sem Hrs
Prerequisite: English 112. A course in the writing of poetry. Each student is encouraged to develop his own poetry writing skills and understanding. In addition to other classroom activities, there are discussions and writing assignments. The instructor may also choose to require analysis of published poetry and criticism. (3-0)

Eng 254 (20254) Creative Writing: Fiction 3 Sem Hrs
Prerequisite: English 112. A course in the writing of fictional prose—chiefly short stories and the novel. Each student is encouraged to develop his own fiction writing skills and understanding. In addition to other classroom activities, there are discussions and writing assignments. The instructor may also choose to require analysis of published fiction and criticism. (3-0)

Eng 266 (20266) American Studies I 3 Sem Hrs
(Can be taken as a history class.)
Prerequisite: A sophomore English course. This is a team taught, interdisciplinary study of selected aspects of American life and culture conducted by staff of the History and English departments. Several topics such as the American Hero, and the Great Depression, as well as a student selected topic will be examined from the historical point of view. The same topics will be examined as they appear in literature so the student can see writers' creative responses to the historical realities of American life. (3-0)

Eng 269 (20269) Native North American Literature 3 Sem Hrs
Prerequisite: English 112. A broad survey of the literature of North American Indians. Poems, drama, and tales of various Indian tribes will be examined, as well as biographies and autobiographies of important Indian leaders. Some reading in secondary sources will be required to facilitate an understanding of the culture which produced the literature. (3-0)

Eng 271 (20271) American Literature 3 Sem Hrs
Prerequisite: English 112. Major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism are studied. (3-0)

Eng 272 (20272) American Literature 3 Sem Hrs
Prerequisite: English 112. A continuation of English 271. Study of major movements and themes in American Literature from Walt Whitman through the Age of Realism and New Directions. (3-0)

Eng 274 (20274) Mexican-American Literature 3 Sem Hrs
Prerequisite: English 112 or the permission of the instructor. The course would provide an introduction to Mexican-American Literature, a survey of novels, short stories, plays, poems, essays, and autobiographies written by contemporary Mexican-American authors. Course would also examine the Mexican-American as portrayed in American Literature by such authors as John Steinbeck, Willa Cather, and Katherin Anne Porter. (3-0)

Eng 275 (20275) Afro-American Literature 3 Sem Hrs
Prerequisite: English 112. Survey course designed to develop and increase the student's awareness, understanding, and appreciation of Black literature. Students will examine works from various genres including: novels, autobiographies, plays, short stories, essays, and poems. (3-0)

Eng 276 (20276) Contemporary American Fiction (1945 to Present) 3 Sem Hrs
Prerequisite: English 112. A study of trends, techniques and themes in recent American fiction. The student will read, analyze, and criticize the works of such writers as Updike, Cheever, O'Connor, Baldwin, Ellison, Bellow, Saiinger, Malamud, and Mailer. (3-0)

Eng 283 (20283) Literature of Mysticism 3 Sem Hrs
Designed to help students on an inner search for authenticity, personal integration and self awareness. The course will provide a variety of possibilities for developing innate potentialities and for achieving altered states of consciousness through literature, awareness exercises, meditation, chanting, fantasy journeys and journal writing. (3-0)

Eng 285 (20285) Women in Literature 3 Sem Hrs
This course will discuss woman's infinite variety as reflected in the literature of past and present, East and West. The first part will focus on images of the woman's private world—her relationship with others and her search for personal identity; the second part will concentrate on women and society—women's vocations, women and the arts, women and war, women and protest movements. The course will be literary rather than psychological or sociological in emphasis and will study both areas mentioned above within a literary context. The course is open to both men and women. (3-0)

Eng 290-299 (20290-20299) Special Project in English
(See page 57)

EDUCATION

Ed 100 (23100) Exploratory Teaching

3 Sem Hrs

A comprehensive survey of teaching—to help the student understand the everyday work of a teacher. One day a week will be spent in a school observing and aiding the teacher. Also, students meet for one hour a week for instruction on techniques, for assessment of their work, for information concerning career choices and for sharing their experiences with each other. (1-6)

Ed 107 (23107) Books for Pre-School Children

3 Sem Hrs

A survey of many types of literature for the pre-school child with emphasis on book selection, correlation with other language arts, and developing techniques of presentation, oral reading and story telling. (3-0)

Ed 290-299 (23290-23299) Special Projects in Education

(See page 57)

HUMANITIES DIVISION

Division Chairman—Gene R. Duckworth, Associate Professor

Professor

Charles A. Breed

Associate Professor

Loren E. Cady

Patricia C. Eggleston

James A. Leffew

Murlene E. McKinnon

Andrejs G. Straumanis

Assistant Professor

Larry D. Butcher

Sarah R. Hansen

Valerie J. Hullum

John W. McCormick

Richard A. McGaw

Robert M. Mee

Raymond Roberts

Russell L. Thayer

Instructor

Judith Y. Gibson

Lawrence D. Oughton

Dr. Evelyn Shields

Lecturer

Ronald F. Stoltz

Joint Appointments

William Ballard, Associate Professor

M. Andersen Rapp, Assistant Professor

Mark D. Baldwin, Instructor

Leonard P. Marsico, Instructor

Television Staff

Thomas E. Haskell, Program Director

Lamarr Scott, Producer-Director

Guy Serumgard, Operations Manager

PHOTOGRAPHY

Photo 101 (24101) Basic Photography

3 Sem Hrs

A course designed to cover instructional topics at the introductory level. Includes camera handling, fundamentals of composition,

black and white darkroom processing techniques, and methods of presentation. Student should realize that a certain amount of work beyond regular class hours will be necessary in order to fulfill chart requirements. (0-6)

Photo 102 (24102) Advanced Photography

3 Sem Hrs

Prerequisite: Photography 101 or permission of instructor. This course is designed to challenge the student's creative and experimental nature. It is a search for materials and methods through which the student can best create and convey an image of choice. The recording and presenting of images will not be limited to conventional films and plates or traditional photographic equipment. Experimentation is encouraged. (0-6)

Photo 103 (24103) Basic Darkroom Techniques

3 Sem Hrs

Prerequisite: Photography 101. This course is designed to offer instruction on the fundamentals of darkroom practice. Subjects that will be studied are: contact printing and paper processing, chemical mixing and handling, darkroom safety, film processing and basic enlarging techniques. Push processing film and etching, spotting and toning will also be covered. (3-0)

Photo 290-299 (24290-24299) Special Projects in Photography

(See page 57)

ART

Suggested Sequence for Art Majors

First Semester

Art 151 Art History and Appreciation

Art 111 Basic Freehand Drawing

Art 115 Basic Design—Two Dimensional

Second Semester

Art 152 Art History and Appreciation

Art 112 Advanced Drawing

Art 116 Basic Design—Three Dimensional

Third Semester

Art 210 Figure Drawing

Art 217 Painting

Art 222 Sculpture

Fourth Semester

Art 231 Basic Ceramics

Art 280 Printmaking

Note: All four-year colleges and universities now require comprehensive art portfolios for art major transfer students.



Art 105 (25105) Art 105 Art Experience 3 Sem Hrs
Prerequisite: None. A course designed for the students not majoring in Art to provide an enriching experience in two and three dimensional media; to include drawing, painting, graphic media, clay and other sculptural media. It is designed primarily for the general degree student who wishes to have some art experience. There would also be an emphasis on art appreciation. (1-3)

Art 111 (25111) Basic Freehand Drawing 3 Sem Hrs
Prerequisite: None. A beginning course in drawing designed for all students interested in the fundamentals of visual form and analysis of structure. Representational treatment of simple objects, forms, and volumes in line, value, and texture with a variety of media. (0-6)

Art 112 (25112) Advanced Drawing 3 Sem Hrs
Prerequisite: Art 111. A continuation of Art 111 emphasizing composition and a further understanding of the elements of drawing in relation to individual expression. Problems involve a variety of media. (0-6)

Art 113 (25113) Art Education 3 Sem Hrs
Prerequisite: None. Introduction to art for prospective teachers. Develops the ability to stimulate the creative interests of children in art. Acquaints the student with a variety of methods and materials adjusted to various grade levels. (0-6)

Art 114 (25114) Art Education 3 Sem Hrs
Prerequisite: Art 113. A continuation of Art 113. Additional investigation of the theories of art education and creative growth of children. (0-6)

Art 115 (25115) Basic Design—Two Dimensional 3 Sem Hrs
Prerequisite: None. Experimentation with the basic elements of design: line, form, space, value, textures, and color. A variety of media is used in developing a visual vocabulary and understanding of art elements and composition. (0-6)

Art 116 (25116) Basic Design—Three Dimensional 3 Sem Hrs
Prerequisite: Art 115. A continuation of Art 115 with a series of problems designed to explore the elements of design in spatial compositions using a variety of basic materials. (0-6)

Art 151 (25151) Art History and Appreciation 3 Sem Hrs
Prerequisite: None. Required of all first-year art majors. A survey of Western art from Prehistoric times to the Renaissance. Deals with major works and artists of the Prehistoric, Ancient, Classical and Medieval cultures. The emphasis is on the architecture and sculpture of these periods. (3-0)

Art 152 (25152) Art History and Appreciation 3 Sem Hrs
Prerequisite: None. Required of all first-year art majors. A con-

tinuation of Art 151. A survey of the history of Western art from the Renaissance through Baroque, Neo-classicism, Romanticism, Impressionism, Expressionism, and the various modern schools. The emphasis is on the painting of those periods. (3-0)

Art 153 (25153) History of Architecture 2 Sem Hrs
Prerequisite: None. The historical development of architecture as a major art form. This development is viewed in relation to man's knowledge of building techniques and available materials as affected by geographic, economic, political and religious influences. (2-0)

Art 154 (25154) The Arts of Africa and the Afro-American 1 Sem Hr
Prerequisite: None. A study of the visual arts of Africa and the Negro. Topics are: (1) the visual arts as they developed in Africa, (2) the influence of African art on the arts of Europe and America, (3) the arts of contemporary Afro-America. (1-0)

Art 155 (25155) Art of the 20th Century 3 Sem Hrs
An exploration of the visual arts of our century, with an emphasis on the current arts in America. (3-0)

Art 210 (25210) Figure Drawing 3 Sem Hrs
Prerequisite: Art 111. A study of the essential aspects of life drawing such as gesture, mass, proportions, and structure. Essentially for the art major. (0-6)

Art 217 (25217) Painting 3 Sem Hrs
Prerequisite: Art 111 and Art 115. Experimentation in oil and acrylic media. Techniques, composition, and color are explored in relation to object references, landscape, figure and non-objective work. (0-6)

Art 218 (25218) Advanced Painting 3 Sem Hrs
Prerequisite: Art 217. A continuation of the painting experience on a more advanced level. Major emphasis on developing a more personal painting style and an understanding of the artist's role in the arts today. Recommended for students interested in art for self-enrichment as well as for art majors. (0-6)

Art 221 (25221) Introduction to Commercial Art 3 Sem Hrs
Prerequisite: Art 115. Instruction in lettering and rough layouts; introduction to typography layouts. Problems encountered in newspaper, magazine, direct mail, and other advertising forms. Laboratory, lecture, and field trips. (0-6)

Art 222 (25222) Sculpture 3 Sem Hrs
Prerequisite: Art 115 or Art 116 or permission of instructor. An introduction to a variety of sculptural concepts and techniques utilizing a variety of media. (0-6)

Art 231 (25231) Basic Ceramics

3 Sem Hrs

Prerequisite: Art 115 and Art 116 or permission of instructor. Introductory study of clay, glazes and their application, and techniques of construction. (0-6)

Art 232 (25232) Advanced Ceramics

3 Sem Hrs

Prerequisite: Art 231 or permission of instructor. Advanced Ceramics uses high-fire stoneware clay bodies and introduces firing techniques with high fire glazes. The techniques learned in Basic Ceramics are employed and are expanded upon to create a variety of well developed forms. This is a studio course which enables the student to learn by experimentation; to mix his own clay bodies and glazes rather than using prepared materials. The student thereby develops an understanding of ceramic process and can independently employ this knowledge to gain a much higher level of achievement in Ceramics. (0-6)

Art 280 (25280) Printmaking

3 Sem Hrs

Prerequisites: Art 111 and Art 115. A study of the art of printmaking and its major techniques; with studio practice in a variety of printing methods. The techniques taught are basically commercial art techniques with commercial potential as well as being useful to major artists. (0-6)

Art 290-299 (25290-25299) Special Projects in Art

(See page 57)

LANGUAGES**FRENCH****Fr 105 (26105) Conversational French**

2 Sem Hrs

Prerequisite: None. An introductory course emphasizing the acquisition of oral-aural skills. Recorded cassette tapes are available for individualized practice. Note: Successful completion of 26105 and 26106 is considered equivalent to the successful completion of French One. (2-0)

Fr 106 (26106) French Composition

2 Sem Hrs

Prerequisite: French 105 or equivalent. An introductory course presenting the orthography of the language and the basic principles of grammar. Original French compositions by students. Note: Successful completion of 26105 and 26106 is considered equivalent to the successful completion of French One. (2-0)

Fr 111 (26111) French One

4 Sem Hrs

Prerequisite: None. A beginning course presenting the basic structure of the French language with oral-aural drills for correct pronunciation and for understanding and using spoken French, dictation reading and writing simple French, acquisition of a basic

vocabulary. All students are expected to do supplemental work either in the language laboratory or to use recorded cassette tapes at home. (4-0)

Fr 112 (26112) French Two

4 Sem Hrs

Prerequisite: French 111 or one year of high school French. A continuation of French 111 with further development of oral-aural skills. Grammatical structure with practice in writing French, and reading of easy French for comprehension of the written language and increasing vocabulary. (4-0)

Fr 211 (26211) French Three

4 Sem Hrs

Prerequisite: French 112 or two years of high school French. Review and application of principles of French grammar by means of oral and written exercises and composition, pronunciation through aural and oral exercises and conversation, reading of French prose and outside reading to develop rapid reading ability at sight are stressed. Classes conducted as far as possible in French. (4-0)

Fr 212 (26212) French Four

4 Sem Hrs

Prerequisite: French 211 or three years of high school French. A continuation of French 211, with somewhat more emphasis on oral skill and conversation. (4-0)

Fr 290-299 (26290-26299) Special Projects in French

(See page 57)

GERMAN**Ger 111 (28111) German One**

4 Sem Hrs

Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written German by means of oral-aural practice, reading of simple texts, and written exercises. Supplementary materials available in language laboratory. (4-0)

Ger 112 (28112) German Two

4 Sem Hrs

Prerequisite: German 111 or one year of high school German. A continuation of German 111. (4-0)

Ger 211 (28211) German Three

4 Sem Hrs

Prerequisite: German 112 or two years of high school German. Continued emphasis is placed on proper pronunciation habits and on application of basic grammatical structures of modern spoken and written German by means of oral-aural exercises, conversations, reading of German prose, and written exercises. As far as possible, this class is conducted in German. (4-0)

Ger 212 (28212) German Four 4 Sem Hrs
Prerequisite: German 211 or equivalent. A continuation of German 211 with emphasis on conversation and composition. (4-0)

Ger 290-299 (28290-28299) Special Projects in German
(See page 57)

RUSSIAN

Russ 111 (29111) Russian One 4 Sem Hrs
Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written Russian by means of oral-aural practice, reading of simple texts, and written exercises. (4-0)

Russ 112 (29112) Russian Two 4 Sem Hrs
Prerequisite: Russian 111 or one year of high school Russian. Continuation of Russian 111. (4-0)

Russ 211 (29211) Russian Three 4 Sem Hrs
Prerequisite: Russian 112 or two years of high school Russian. Continued emphasis placed on proper pronunciation habits and application of grammatical structures of modern spoken and written Russian by means of oral-aural exercises, conversations, reading of Russian prose, and written exercises. As far as possible this class is conducted in Russian. (4-0)

Russ 212 (29212) Russian Four 4 Sem Hrs
Prerequisite: Russian 211 or its equivalent. Continuation of Russian 211 with more emphasis on conversation and composition. (4-0)

Russ 290-299 (29290-29299) Special Projects in Russian
(See page 57)

SPANISH

Spa 101 (34101) Hispanic Civilizations 2 Sem Hrs
Prerequisite: None. An introduction to some basic concepts concerning educational systems, religious thought, marriage customs, attitudes toward death, role of man and woman, historical highlights, cultural and natural resources, and relevant contributions in the area of art, music, literature, foods, and clothing of the Spanish-speaking world (Europe, the Americas, and the U.S.A.) Course will be conducted in English. (2-0)

Spa 105 (34105) Conversational Spanish 2 Sem Hrs
Prerequisite: None. An introductory course presenting the language with oral-aural drills for correct pronunciation and for accurate understanding of the spoken word. Emphasis will be on student acquisition of a basic vocabulary and fluency in a number of basic language structures. Professionally recorded cassette tapes for individualized practice. (2-0)
Note: Successful completion of the two courses—34105 and 34106—is considered equivalent to the successful completion of the single course 34111.

Spa 106 (34106) Spanish Composition 2 Sem Hrs
Prerequisite: None. An introductory course presenting the orthography of the language and the basic principles of grammar. Special attention to the use of the written accent mark and the punctuation symbols unique to Spanish. Assignments to develop ability to read rapidly at sight and to read out loud from the printed text. Original Spanish composition by students. (2-0)
Note: Successful completion of the two courses—34105 and 34106—is considered equivalent to the successful completion of the single course 34111.

Spa 111 (34111) Spanish One 4 Sem Hrs
Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written Spanish by means of oral-aural practice, reading of simple texts, and written exercises. Professionally recorded cassette tapes available to student for individualized practice. (4-0)
Note: Successful completion of the two courses—34105 and 34106—is considered equivalent to the successful completion of the single course 34111.

Spa 112 (34112) Spanish Two 4 Sem Hrs
Prerequisite: Spanish 111 or one year of high school Spanish. Continuation of Spanish 111. (4-0)

Spa 221 (34211) Spanish Three 4 Sem Hrs
Prerequisite: Spanish Two or two years of high school Spanish. Continued emphasis placed on proper pronunciation habits and on application of grammatical structures of modern spoken and written Spanish by means of oral-aural exercises, conversations, reading of Spanish prose, and written exercises. As far as possible, this class is conducted in Spanish. Professionally recorded cassette tapes available to student for individualized practice. (4-0)

Spa 212 (34212) Spanish Four 4 Sem Hrs
Prerequisite: Spanish Three or three years of high school Spanish. Continuation of Spanish Three. (4-0)

Spa 275 (34275) Introduction to Hispanic Fiction

3 Sem Hrs

Prerequisite: Ability to speak and read Spanish (completion of fourth year of high school Spanish or fourth semester of college Spanish, or permission of the instructor). Reading, research, and discussion based on a study of representative literature of the Hispanic world (Europe, North America, and South America). Students will read, discuss, and write about three selected novels and/or plays under guided supervision. Course will be conducted in Spanish. (3-0)

Spa 290-299 (34290-34299) Special Projects in Spanish

(See page 57)

LIBRARY SCIENCE

Lib Sci 281 (36281) Classification and Cataloging

3 Sem Hrs

Principles and practices of library classification and cataloging, with emphasis on Dewey Decimal Classification System. Lectures combined with laboratory practice. (3-0)

Lib Sci 282 (36282) Reference Books

3 Sem Hrs

Study of basic books most frequently used by reference librarians. Use of encyclopedias, dictionaries, atlases, and indexes is stressed. Lectures combined with laboratory practice. (3-0)

Lib Sci 290-299 (36290-36299) Special Projects in Library Science

(See page 57)

MUSIC

Suggested Courses for Music Majors

First Semester

Music 101 Theory-Basic Musicianship
Music 111 Music Literature

Second Semester

Music 102 Theory-Basic Musicianship
Music 112 Music Literature

Third Semester

Music 201 Theory-Basic Musicianship
Music 211 Music History

Fourth Semester

Music 202 Theory-Basic Musicianship
Music 212 Music History

Additional Information

Music 105 String Ensemble	}	Any one or all recommended for 4 semesters
Music 115 Wind Ensemble		
Music 141 Choir	}	Any semester
Music 106 Beginning Wind Class		
Music 125 Voice Class	}	3rd or 4th semester
Music 145 Conducting		

Music 291 Independent Study

(Credit for private lessons in applied music from instructors approved by Delta Music Department. This instruction may be off campus in teacher's studio. Jury examination required at end of each semester. Credit may also be earned for student participation in the Delta Symphony. Saginaw Civic Symphony, etc.)

Mus 101 (38101) Theory-Basic Musicianship

5 Sem Hrs

Prerequisite: None. However, basic musical knowledge recommended, i.e., keys, notation, rhythm, and clefs. Comprehensive course for potential music majors. Emphasis on aural theory, written theory, and keyboard harmony. (3-4)

Mus 102 (38102) Theory-Basic Musicianship

5 Sem Hrs

Prerequisite: Music 101. Continuation of written theory with drill in harmonic and melodic dictation. Sight-singing and keyboard harmony through harmonic dictation of four-part Bach Chorale and other appropriate styles. (3-4)

Mus 105 (38105) String Ensemble

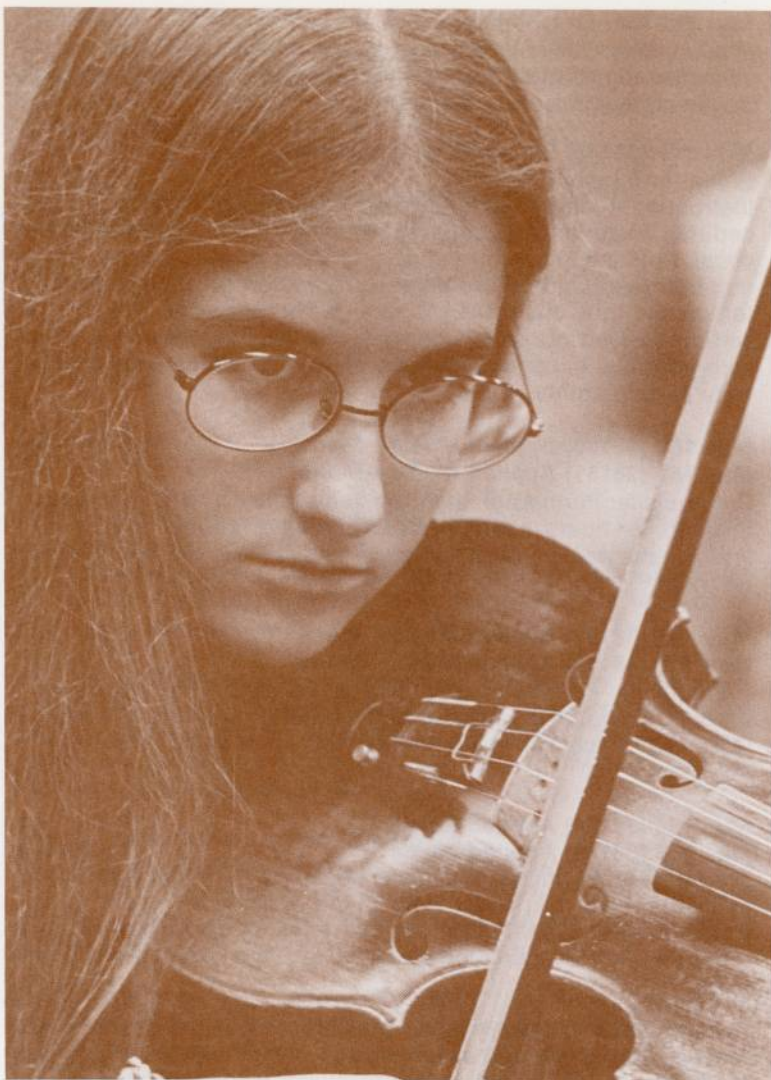
1 Sem Hr

Prerequisite: Experience in high school orchestra or equivalent. May be elected for four semesters. (0-2)

Mus 106 (38106) Beginning Wind Class

2 Sem Hrs

Class instruction in Brass and Woodwind instruments. Instruction in one or more wind instruments per semester. This is a course for adult beginners who desire to have a reasonable knowledge of and ability to play one or more wind instruments. This class will be taught as a beginning band. Each member will be expected to practice at least one hour outside of class for each class meeting, i.e., two hours per week. At the completion of his study on a particular instrument, the student should be able to produce a reasonably characteristic tone, play major and minor scales and arpeggios and perform adequately in a beginning band. These are minimum objectives. (2-0)



Mus 111 (38111) Music Literature 3 Sem Hrs
Prerequisite: None. Acquaints the student with the fundamentals of listening. Symphonic music is emphasized. (3-0)

Mus 112 (38112) Music Literature 3 Sem Hrs
Prerequisite: Music 111 or permission of instructor. Continued study of instrumental music (concerta small ensemble). Promotes an understanding of, and appreciation for, vocal forms (opera, art, song, large choral work, i.e., oratorios, masses). (3-0)

Mus 115 (38115) Wind Ensemble 1 Sem Hr
Prerequisite: Band experience in high school or the equivalent. May be elected for four semesters. (0-2)

Mus 121 (38121) Elements of Music 3 Sem Hrs
Prerequisite: None. Rudiments of music, including notation, clefs, keys, syllables, and rhythm. Teaching of songs. Elementary conducting technique. Planned to meet the basic musical needs of those who expect to teach in the elementary grades. (3-0)

Mus 125 (38125) Music Voice Class 2 Sem Hrs
A study of resonance, diction, breathing, interpretation of various styles of vocal music. (2-0)

Mus 130 (38130) Black Music 2 Sem Hrs
Prerequisite: None. Acquaints students with Black Music with the following course objectives:
To depict the historical and sociological conditions under which Black Music developed.
To place Black Music in its proper perspective within the field of music in America.
To relate Black Music as an expression of attitude among Blacks regarding their living conditions and experiences, as slaves and as "freemen" in relationship to the Black life style.
To trace the origin and development of Black Music through the spiritual, the blues, jazz, rock 'n roll, and the works of "serious" Black composers. (2-0)

Mus 131 (38131) Beginning Class Piano 2 Sem Hrs
Prerequisite: None. Beginning class piano instruction leading to the ability to play melodies and accompanying chord patterns and rhythms. (1-1)

Mus 132 (38132) Intermediate Class Piano 2 Sem Hrs
Prerequisite: Music 131 or permission of the instructor. Continuation of Beginning Class Piano. (1-1)

Mus 141 (38141) Choir 2 Sem Hrs
Prerequisite: None. However, high school and/or church choir experience is recommended. Directed toward the study of representative choral music and public performances in college and community activities. May be elected for four semesters. (0-3)

Mus 142 (38142) Chamber Choir 1 Sem Hr
Prerequisite: Selected through audition. Auditions prior to the semester registration. Performing group available with frequent public appearance potential. (0-2)

Mus 145 (38145) Elements of Conducting (Vocal and Instrumental) 2 Sem Hrs
Instruction in baton technique and basic choral conducting procedures. Experience in actual conducting—both instrumental and vocal. Practice in score reading and study of transposing instruments. Investigation of problems of intonation, balance, ensemble, tempo and tone quality as encountered in rehearsal. The class itself will be used as a performing group in teaching the above whenever possible. In some instances, recording will be used to illustrate certain points. (2-0)

Mus 150 (38150) Applied Music—Piano 2 Sem Hrs
Mus 151 (38151) Applied Music—Piano 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction in piano; ten hours minimum weekly practice required; one private lesson each week; jury examination held at the end of each semester. (2-0)

Mus 152 (38152) Applied Music—Voice 2 Sem Hrs
Mus 153 (38153) Applied Music—Voice 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction in voice; six hours minimum practice weekly required; one private lesson each week; jury examination held at the end of each semester. (2-0)

Mus 154 (38154) Applied Music 2 Sem Hrs
Mus 155 (38155) Applied Music 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction in instruments, i.e., other than piano and voice (violin, guitar, trumpet, flute, organ, etc.); ten hours minimum weekly practice required. Jury examinations held at the end of each semester. (2-0)

Mus 201 (38201) Theory-Basic Musicianship 3 Sem Hrs
Prerequisite: Music 102 or permission of instructor. Second-year Music Theory for music majors involving sophomore level aural and written theory with keyboard. (3-0)

Mus 202 (38202) Theory-Basic Musicianship 3 Sem Hrs
Prerequisite: Music 201. Second-year Music Theory for music majors involving sophomore level aural and written theory with keyboard. (3-0)

Mus 211 (38211) Music History 3 Sem Hrs
Prerequisite: Music 111 or permission of instructor. An in-depth study of music of ancient times to the Seventeenth Century. Required for music majors. (3-0)

Mus 212 (38212) Music History

3 Sem Hrs

Prerequisite: Music 111 or 211 or permission of instructor. A continuation of Music 211 with a study of music from the Seventeenth Century to the present with emphasis on form and style. Required for music majors. (3-0)

Mus 290-299 (38290-38299) Special Projects in Music

(See page 57)

PHILOSOPHY**Phil 211 (40211) Introduction to Philosophy**

3 Sem Hrs

Prerequisite: Sophomore standing. Designed to acquaint the student with some of the fundamental questions that have confronted mankind and the way in which these questions have been dealt with by the most profound thinkers of the past and present. (3-0)

Phil 212 (40212) Reading in Elementary Philosophy

3 Sem Hrs

Prerequisite: Sophomore standing. Aims at direct reading of the earlier philosophers, especially Plato, Aristotle, Descartes. The historical approach to supplement the other method of theories-approach in philosophy. (3-0)

Phil 213 (40213) Introduction to Ethics

3 Sem Hrs

Prerequisite: Sophomore standing. Designed to inquire into the principles of moral philosophy and to study the many different theories of ethics included in the writings of the leading moral philosophers. (3-0)

Phil 214 (40214) Philosophy of Religion

3 Sem Hrs

Prerequisite: None. An inquiry into the meaning and relevance of evolving religious beliefs and symbols and an examination of methodological issues relating to problems of God, man and the universe. (3-0)

Phil 221 (40221) Logic

4 Sem Hrs

Prerequisite: Sophomore standing or second semester Freshman with minimum C-plus average. Development of effective thinking through the study of classical logic. Methods of clear argumentation, definition, assessment of evidence, and a brief introduction to inductive logic and the scientific method. (4-0)

Phil 290-299 (40290-40299) Special Projects in Philosophy

(See page 57)

RADIO-TELEVISION**RTV 149 (43149) Studio Operations I**

3 Sem Hrs

Prerequisite: None. This course is a basic introduction to all aspects of television and radio production. Emphasis will be placed on developing student proficiency and an understanding of audio control equipment, television camera operations, light and staging techniques, and the selection and integration of written and visual production elements. Three hours per week additional time will be required in operational laboratory experience under actual broadcast conditions. Time to be arranged with the instructor to fit each student's schedule. (3-0)

RTV 150 (43150) Radio and Television Writing

3 Sem Hrs

Prerequisite: None. This course is conceived as both a practical and theoretical presentation. Such areas as film narration, public service announcements, commercials, drama, and program continuity are the course's major areas of concern. (2-2)

RTV 153 (43153) Broadcast Performance

3 Sem Hrs

Prerequisite: None. In this course the broadcasting student explores, in depth, presentations before microphones and cameras. Dress, movement, make-up, lighting, and delivery are all carefully considered. All major performance situations are thoroughly examined: narrations, speeches, interviews, discussions, newscasts, commercials, and children's programs and demonstrations. (2-2)

RTV 154 (43154) Studio Operations II

3 Sem Hrs

Prerequisite: Radio-Television 149. This course is divided into three basic study units: type of equipment, operation of equipment, and responsibilities of studio personnel with an introduction to producing and directing. Through actual production work, students learn the theory and practice of such specialty areas as television graphics, studio lighting, audio operation, and camera techniques. This is a television production course. Three hours per week additional time will be required in operational laboratory experience under actual broadcast conditions. Time to be arranged with the instructor to fit each student's schedule. (2-2)

RTV 156 (43156) Radio Broadcasting

3 Sem Hrs

Prerequisite: None. Radio-Television 156 is a specialized concentration in the area of the principles and techniques of producing, programming, and management. It stresses the new role radio broadcasting has come to play among mass media. (2-2)

RTV 157 (43157) Cinematography for Television

3 Sem Hrs

Prerequisite: None. This course in film production emphasizes the technical side of filmmaking. Recent advances in equipment and methods are discussed as the basis of increasingly creative uses of film. Basic orientation is toward film for television using 16mm,

low budgets and small crews. Students produce, direct, shoot, and edit their own short films, using television department's equipment. Viewing and technical analysis of both professional and amateur films are intended to help the student establish personal criteria of good technique and quality. (2-2)

**RTV 220 (43220) Communication History,
Law and Responsibilities**

3 Sem Hrs

Prerequisite: None. This offering is divided into two parts. The first part will involve study of the origin, development, nature and function of radio and television stations and networks. The economy, laws and regulations of the broadcasting industry are discussed. The self-regulation of the industry and the social controls on it in modern society are evaluated. The other part of this course delves deeply into communications law, regulatory acts and agencies, self-regulatory codes, labor unions, and the ethical and moral considerations of being a broadcaster. This course will also review all pending legislation affecting broadcasting and will look toward all future technical and legal developments. (3-0)

RTV 222 (43222) Broadcast Journalism

3 Sem Hrs

Prerequisite: Radio-Television 150. (Recommended courses: Radio-Television 153 and 157). What is news and how it is obtained and presented by the electronic media, is the crux of this course. Public information in an authoritarian and libertarian society is analyzed. With the growing concern over the mass dissemination of information, it is the purpose of this course to provide a forum for the discussion of the moral, ethical and legal responsibilities that lie at the center of the radio and television news controversy. Such areas as news gathering, writing, laws of libel and slander, information structuring, and public affairs programming are areas of specific interest. The special requirements of radio and television news are examined. This course is at once theoretical, evaluatory and practical. The course is for both radio and television. (3-0)

RTV 225 (43225) Studio Operations III

3 Sem Hrs

Prerequisite: Radio-Television 154. The broadcasting student strives to become proficient in the operation of all studio equipment and production elements. Besides the elements introduced in the other television production courses (Radio-Television 149 and 154), the student concentrates on two new specialty areas: set design and scenery construction. (2-2)

RTV 227 (43227) Broadcast Sales

3 Sem Hrs

Prerequisite: None. This unique course brings the marketing concept into broadcast sales. Information on the psychological, sociological, economic, and communicative aspects of salesmanship are applied to the broadcast industry. Actual sales presentations will be prepared for "clients". Frequent guests in the broadcast sales field will be invited to share their experience with the class. (3-0)

RTV 251 (43251) Television Producing and Directing 3 Sem Hrs
Prerequisite: Radio-Television 225 or consent of instructor. This is the most advanced television production course Delta College offers. It assumes the student has mastered the technique of equipment operation. Through lecture and lab, the student is given the opportunity to use his technical knowledge in the artistry of television producing and directing. Students are required to actually produce and direct their own programs. Emphasis is placed on program planning and organization, production equipment and personnel utilization, talent coordination and direction, and camera direction. (2-2)

RTV 260 (43260) Assistant Director Program

2 Sem Hrs

Prerequisite: Ten semester hours in RTV or equivalent on-the-job experience in TV Department and TV staff approval. This course is designed to provide in-service training for the student in the area of producing-directing, operations, and programming by working directly with a TV Staff member. A minimum of four hours of work per week plus a written paper are required. (0-4)

RTV 290-299 (43290-43299) Special Projects in Radio-Television
(See page 57)

SPEECH

**Speech 112 (46112) Fundamentals of Oral
Communication**

3 Sem Hrs

Prerequisite: None. The course offers training in the fundamental processes of oral expression, with an emphasis on speaking and listening as the coordination of perception and expression. The basic principles, components, and skills that will aid the individual in various communication situations are stressed. (3-0)

**Speech 150 (46150) Conversational Sign
Language I**

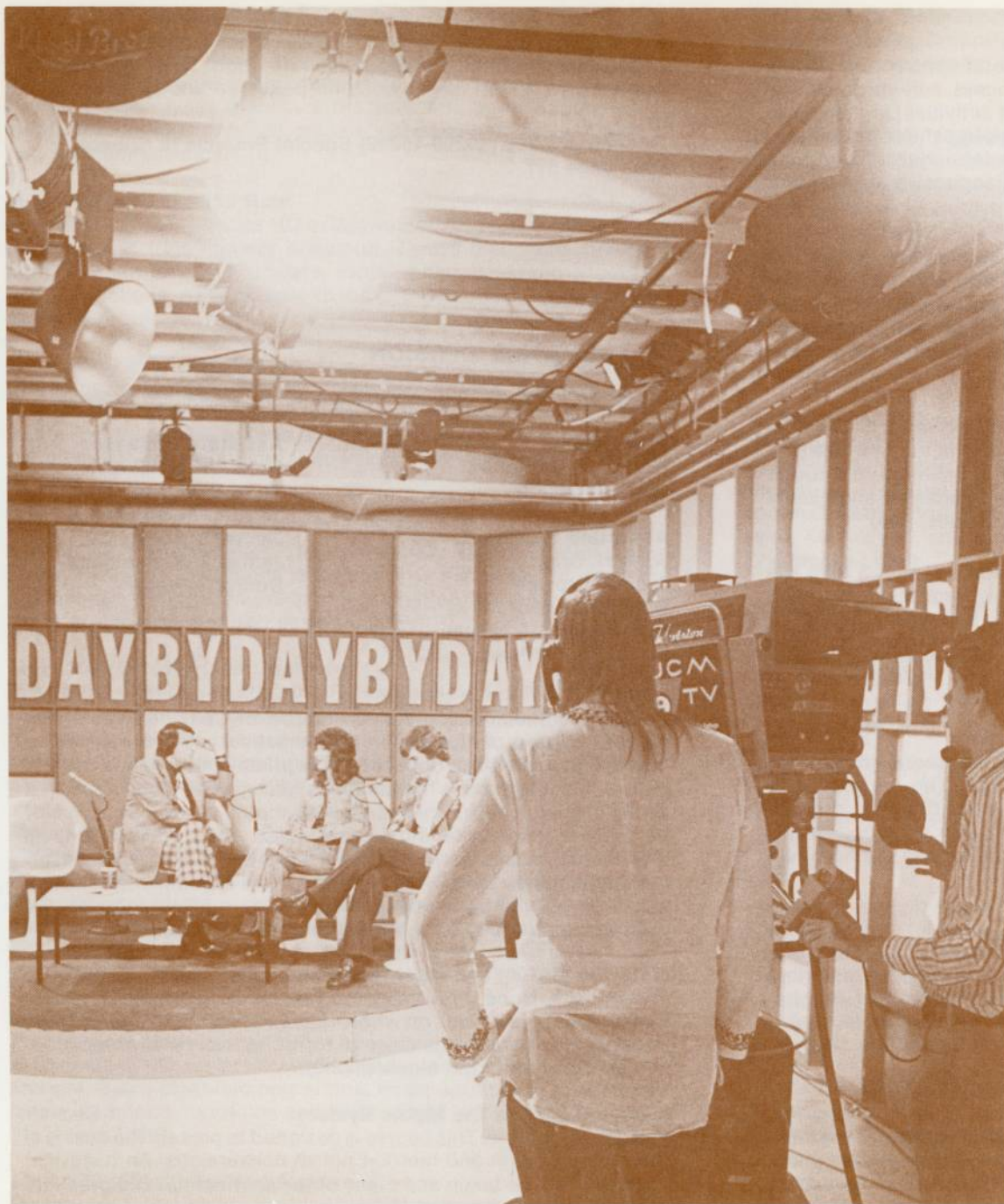
2 Sem Hrs

A course designed for those people who have no knowledge of sign language. This course offers the fundamentals necessary to communicate with someone who is deaf or hard of hearing. Brief discussions of the hearing mechanism, psychology of deafness, and lipreading are included. (2-0)

**Speech 152 (46152) Conversational Sign
Language II**

3 Sem Hrs

Prerequisite: Speech 150 or basic knowledge of sign language. A continuation of Speech 150, designed to give the students a broader sign vocabulary while increasing their conversational fluency. During this course, students will be asked to use their skills in the community. (3-0)



Speech 201 (46201) Speech for the Classroom Teacher

3 Sem Hrs

Prerequisite: None. For education majors, it aims for an understanding of speech in the educational process, self-improvement of the teacher through classroom speech activities, and application of these principles to teacher-pupil relationships. Its comprehensive goal is to aid the teacher in his professional and personal relationships with the students, his colleagues, and his community. (3-0)

Speech 211 (46211) Advanced Oral Communication

3 Sem Hrs

Prerequisite: Speech 112 or consent of instructor. Includes platform experiences; analysis of message/speaker/audience; problem solving through discussion techniques and overcoming personal and social communication difficulties. Multi-media aids are stressed. (3-0)

Speech 213 (46213) Oral Interpretation of Literature

3 Sem Hrs

Prerequisite: Speech 112 or permission of instructor. The interpretation of intellectual and emotional meaning in literature through oral performance. The emphasis is placed on analysis and quality of the literature as well as on performance skills. (3-0)

Speech 214 (46214) Discussion Techniques

3 Sem Hrs

Prerequisite: A previous speech course or permission of the instructor. Designed to explain discussion as a means to better understanding and action in human affairs and to develop attitudes and skills which enable people to participate in discussion competently. A study of group leadership. (3-0)

Speech 215 (46215) Introduction to Theatre

3 Sem Hrs

Prerequisite: None. Designed to give the student some insight into the various aspects of theatrical production. The purpose is to make the student a discriminating observer of dramatic production whether on stage, film, or the T.V. screen. Included in this study are play analysis and practical experience in acting directing, scenery, and lighting. (3-0)

Speech 216 (46216) Theatre History

3 Sem Hrs

Prerequisite: History 111 or 112 or permission of instructor. This class is devoted to introducing the student to the various historical eras of the theatre, from the Ancient Greeks to the present. Emphasis is placed on the development of the physical theatre, representative playwrights, and the development of actor and the director. (3-0)

Speech 217 (46217) Technical Theatre

3 Sem Hrs

Prerequisite: None. Designed to acquaint the student with the technical aspects of theatrical production: i.e., set design/construction, lighting, sound, props. Instruction to be both lecture and practical lab. (3-0)

Speech 221 (46221) Persuasion and Argumentation.

3 Sem Hrs

Prerequisite: Speech 112 or permission of instructor. Techniques of analysis, reasoning, briefing, and refutation. Talks to win attention, secure action, and overcome prejudice and hostility. (3-0)

Speech 290-299 (46290-46299) Special Projects in Speech

(See page 57)

MATHEMATICS DIVISION

Division Chairman—Newell H. Remington, Associate Professor

Professor

Robert H. DeVinney
John S. Kostoff

Associate Professor

John H. Brinn
Jack L. Crowell
Donald L. Laughner
Dr. Joseph L. Mazanec
Donald A. McPhee

Assistant Professor

Robert F. Keicher
Anne E. Martin
Jerry A. Schuitman
James S. Soddy
James A. Verhanovitz
Donna J. Weyer

Course prerequisites are stated in terms of Delta courses or the number of years of high school mathematics, and are intended to insure that students choose the appropriate mathematics course. Individuals may have a mathematics background equivalent to a stated prerequisite, in which case they should consult a counselor for assistance in evaluating equivalencies. Any student who feels that circumstances warrant waiving a prerequisite should consult the Mathematics Division for approval. It is recommended that a grade of "C" or better be earned in any mathematics course used as a prerequisite for another mathematics course.

Math 100 (58100) Pre-Algebra Mathematics

2 Sem Hrs

Prerequisite: None. Provides a foundation in arithmetic. The four fundamental operations on whole numbers, common and decimal fractions and percentages, use of formulas, ratio and proportion, and an introduction to algebra. (2-0)

Math 104 (58104) The Metric System

1 Sem Hr

Prerequisite: None. This course is designed to present the basics of the metric system and metric-English conversions. An historical approach will be taken and many of the economical and practical aspects will be discussed (1-0)

Math 105 (58105) Electronic Calculating Procedures 1 Sem Hr
Prerequisite: None. An acquaintance with the basics of trigonometry is helpful. Primarily designed for persons desiring to use the hand-held electronic calculators effectively. Topics to be discussed include types of calculators available, computation, efficient use, scientific notation, accuracy of computation, precision, and problem solving. (1-0)

Math 106 (58106) Slide Rule 1 Sem Hr
Prerequisite: Mathematics 107 or equivalent. An acquaintance with the basics of trigonometry is helpful. Topics discussed include multiplication, division, powers, roots, reciprocals, and trigonometric functions. A slide rule with the C, D, A, B, K, S, T, ST, and CI scales is required. (1-0)

Math 107 (58107) Algebra I 3 Sem Hrs
Prerequisite: Mathematics 100. Natural numbers, integers, first degree equations and inequalities, special products, factoring, fractional equations, graphs and linear systems, radicals, exponents, quadratic equations. (Equivalent to first year high school algebra.) (3-0)

Math 108 (58108) Elementary Statistics 3 Sem Hrs
Prerequisite: Mathematics 119. Elementary statistical concepts studied include frequency distributions, measures of central tendency and dispersion, sampling, estimation, testing hypothesis, linear correlation, and regression. (3-0)

Math 109 (58109) Plane Geometry 3 Sem Hrs
Prerequisite: Mathematics 107. An exploratory approach to elementary Euclidean geometry covering incidence geometry, congruences, similarity, parallelism, parallelograms, circles, areas, construction, geometry of three dimensions, and plane coordinate geometry. (Equivalent to high school geometry.) (3-0)

Math 110 (58110) Mathematics for Elementary Teachers 4 Sem Hrs
Prerequisite: Mathematics 107 or one year of high school algebra. Numeration systems, sets and their properties, classification of number systems from whole numbers to the rational numbers to real numbers, the operations on these classifications and the properties of the operations, arithmetical algorithms. (4-0)

Math 111 (58111) Applied Algebra I 2 Sem Hrs
Prerequisite: Mathematics 107 or one year of high school algebra; Mathematics 109 advisable. Application oriented, for the technical student. Basic algebraic operations, linear equations, systems of linear equations, functions and linear graphing. (Class meets for 7½ weeks.) (2-0)

Math 112 (58112) Applied Algebra II 2 Sem Hrs
Prerequisite: Mathematics 111. Application oriented, for the technical student.

Determinants, exponents and radicals, quadratic equations, ratio, proportion and variation, common and natural logarithms, exponential equations. (Class meets for 7½ weeks.) (2-0)

Math 113 (58113) Applied Trigonometry I 2 Sem Hrs
Prerequisite: Mathematics 112. Application oriented, for the technical student. Definitions and properties of trigonometric functions, solution of right triangles, vectors, graphs, trigonometric functions. (Class meets for 7½ weeks.) (2-0)

Math 114 (58114) Applied Trigonometry II 2 Sem Hrs
Prerequisite: Mathematics 113. Application oriented, for the technical student. Complex numbers, vectors, trigonometric equations and identities, solution of triangles, graphing. (Class meets for 7½ weeks.) (2-0)

Math 115 (58115) Applied Statistics 2 Sem Hrs
Prerequisite: Mathematics 112. Application oriented, for the technical student. Topics covered include: Frequency distributions, measures of central tendency, measures of variability, probability, normal distribution, T distribution, statistical inference, regression, correlation, and applications of these ideas. (Class meets for 7½ weeks.) (2-0)

Math 117 (58117) Math for Allied Health 2 Sem Hrs
Prerequisite: None. The course will consist of a review of Roman numerals, fractions, decimals, percentages, ratios, and a study of the Metric system and the Apothecaries' system with applications in converting from one system to another, and the calculation of doses. (2-0)

Math 119 (58119) Intermediate Algebra 3 Sem Hrs
Prerequisite: Mathematics 107 or one year of high school algebra. Fundamental concepts of algebra, graphs, systems of linear equations, quadratic equations, exponents, radicals, variation, proportion, and logarithms. (3-0)

Math 121 (58121) Plane Trigonometry 3 Sem Hrs
Prerequisite: Mathematics 109 and Mathematics 119. (Mathematics 119 may be taken concurrently.) Definitions and properties of trigonometric functions, solution of triangles, identities, equations, inverse functions, complex numbers and applications. (3-0)

Math 122 (58112) College Algebra 3 Sem Hrs
Prerequisite: Mathematics 109 and Mathematics 119. A brief review of some algebraic fundamentals. Topics covered usually include: proportions, variation, functions, relations, quadratic equations, systems of equations, inequalities, progressions, probability, binomial theorem, theory of polynomial functions,

matrices and determinants. (Those students planning to take Mathematics 161 should take Mathematics 151 rather than Mathematics 122.) (3-0)

Math 125 (58125) Mathematics—Man's Creation 3 Sem Hrs
Prerequisite: None. An introduction to the spirit of mathematics. Mathematical surprises, games, paradoxes, and puzzles used to explore the style, substance, and power of mathematics. Number systems, number theory, topology, geometry, algebra, analysis, and combinatorics are among the topics investigated. (3-0)

Math 140 (58140) BASIC Programming I 1 Sem Hr
Prerequisite: None. An interdisciplinary course designed to teach how to use a time-sharing computer system and enough of the BASIC language to enable students to write programs in their area of interest. (Class meets for 5 weeks.) (1-0)

Math 141 (58141) BASIC Programming II 1 Sem Hr
Prerequisite: Some knowledge of BASIC and two sequential courses in algebra. This course is for the student who has had an introductory course and is interested in how BASIC can be used to solve mathematical problems. The capabilities of the BASIC language to handle vectors and functions including library and user-defined functions will be explored. With the TAB function students will be able to write programs with graphical output. The RND function will allow the consideration of using a computer for simulation. (Class meets for 5 weeks.) (1-0)

Math 142 (58142) BASIC Programming III 1 Sem Hr
Prerequisite: Math 141. This course is a study of BASIC particularly some of the more advanced topics such as the manipulation of vectors and matrices. BASIC has eleven special matrix statements which will be studied. The course will emphasize the applications of mathematics which use vectors and matrices. (Class meets for 5 weeks.) (1-0)

Math 147 (58147) FORTRAN Programming 2 Sem Hrs
Prerequisite: Mathematics 122, or 114, or 151. Programming digital computers, fundamental concepts, and techniques of computation with a computer, using the FORTRAN language. The course will concern itself with programming typical applications and testing them on a computer system. (2-0)

Math 151 (58151) Pre-Calculus Mathematics 4 Sem Hrs
Prerequisite: At least three years of college preparatory mathematics, including trigonometry or both Mathematics 119 and 121. Topics covered include: rational, polynomial, logarithmic, exponential and trigonometric functions, matrices, determinants, systems of equations, progressions, analytic geometry, inequalities, binomial theorem, and mathematical induction. (4-0)

Math 161 (58161) Analytic Geometry and Calculus I 4 Sem Hrs

Prerequisite: Four years of college preparatory mathematics or Mathematics 151. Relations, functions, the line, curve sketching, limits, continuity, differentiation and integration of algebraic and trigonometric functions, applications of differentiation. (4-0)

Math 162 (58162) Analytic Geometry and Calculus II 4 Sem Hrs
Prerequisite: Mathematics 161. Differentiation and integration of exponential, logarithmic and hyperbolic functions, parametric equations, polar coordinates, methods of integration, applications of integration, limits, and continuity. (4-0)

Math 211 (58211) Applied Calculus 5 Sem Hrs
Prerequisite: Mathematics 114. Application oriented, for the technical student. Conics, differentiation and integration of algebraic, trigonometric, logarithmic and exponential functions. Emphasis on the application of the derivative and integral. (5-0)

Math 247 (58247) Advanced FORTRAN Programming 2 Sem Hrs
Prerequisite: Mathematics 147 or equivalent. A course to acquaint potential users with some features of FORTRAN which are not usually discussed in an introductory course and some of the finer points of correct programming. The applications will be mathematical in nature and taken from the student's area of interest. (2-0)

Math 261 (58261) Analytic Geometry and Calculus III 4 Sem Hrs
Prerequisite: Mathematics 162. Solid analytic geometry, vectors, infinite series, partial differentiation and integration of indeterminate forms, and multiple integration. (4-0)

Math 263 (58263) Introduction to Linear Algebra 3 Sem Hrs
Prerequisite: Mathematics 162, with Mathematics 261 desirable. Matrices, determinants, linear systems, vector spaces, linear transformations. (3-0)

Math 264 (58264) Introduction to Ordinary Differential Equations 2 Sem Hrs
Prerequisite: Mathematics 261 and 263 or Mathematics 263 taken concurrently. Some special types of differential equations and their applications, linear differential equations, systems of linear differential equations, solutions by means of power series. (2-0)

Math 290-299 (58290-58299) Special Projects in Mathematics
(See page 57)

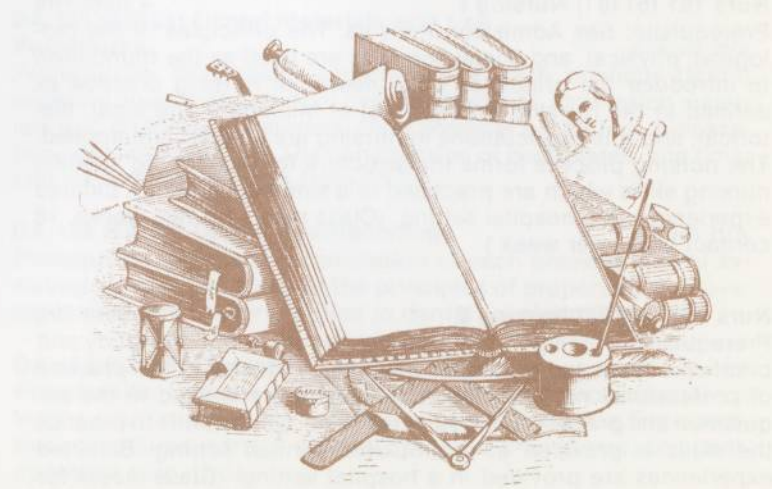


NURSING DIVISION
 Division of Nursing
 Assistant Professor
 Caroline M. Mann
 Robert J. Phillips
 James E. Williams
 Assistant Professor
 James H. Dalton
 David E. Henson
 Jonathan M. Wilson

ONTARIO JOURNAL

The Ontario Journal is a quarterly publication of the Ontario Association of University Teachers (OAUT). It is a journal of ideas and information for teachers and administrators in Ontario universities. The journal is published by the OAUT, 100 Queen's Park, Toronto, Ontario M5S 1A5. The journal is published quarterly, in January, April, July, and October. The journal is published by the OAUT, 100 Queen's Park, Toronto, Ontario M5S 1A5. The journal is published quarterly, in January, April, July, and October. The journal is published by the OAUT, 100 Queen's Park, Toronto, Ontario M5S 1A5.

The Ontario Journal is a quarterly publication of the Ontario Association of University Teachers (OAUT). It is a journal of ideas and information for teachers and administrators in Ontario universities. The journal is published by the OAUT, 100 Queen's Park, Toronto, Ontario M5S 1A5. The journal is published quarterly, in January, April, July, and October. The journal is published by the OAUT, 100 Queen's Park, Toronto, Ontario M5S 1A5.



NURSING DIVISION

Division Chairman—Dr. Crystal M. Lange, Professor

Associate Professor

Caroline M. Mertz
Velma J. Phillips
Joyce E. Whittaker

Instructor

Diana L. Duke
Suzanne Gore
Katherine C. Yops
Mary Lou Whipple

Assistant Professor

Jessie R. Dolson
Gayle D. Hanna
Bonifacia M. Wojcik

NURSING

Nurs 100 (61100)

Introduction to Health Care: Nursing

2 Sem Hrs

Prerequisite to Clinical Nursing courses.

This course includes descriptions of functions, roles, and responsibilities of members of the health care team in relationship to the recipients of health care. Also includes observational experiences in area hospital and community agencies, and an introduction to basic skills required by the individual who is involved in the delivery of health care. (2-0)

(Note: The following courses are subject to the Progression and Retention Policies.)

Nurs 101 (61101) Nursing I

4 Sem Hrs

Prerequisite: See Admission Policies. The principles of the biological, physical, and social sciences are used as the foundation to introduce the principles of professional nursing practice as defined in the Nursing Practice Act of Michigan. The legal, historical, and role expectations in nursing are studied and applied. The nursing process forms the structure for developing specific nursing skills which are practiced in a simulated setting. Limited experiences in a hospital setting. (Class meets for five weeks, 18 contact hours per week.)

Nurs 102 (61102) Nursing 2

4 Sem Hrs

Prerequisite: Nursing 101. Introduces the student to the study and practice of selected principles and skills required in the practice of professional nursing. The nursing process is used in the acquisition and practice of the selected skills. Opportunity to practice the skills is provided in a simulated clinical setting. Selected experiences are provided in a hospital setting. (Class meets for

five weeks, 18 contact hours per week.)

Nurs 103 (61103) Nursing 3

4 Sem Hrs

Prerequisite: Nursing 102. Provides the student with guided learning experiences to develop beginning competence in evaluation, planning, and implementation of selected nursing principles. Opportunity to practice the principles and skills is provided in both simulated and actual patient care settings. (Class meets for five weeks, 18 contact hours per week.)

Nurs 104 (61104) Nursing 4

4 Sem Hrs

Prerequisite: Nursing 103. Opportunities to apply nursing principles in the care of patients with problems in nutrition and/or disturbances in fluid and electrolyte balance. The patient being treated surgically provides the basis for evaluation, planning, and implementation of selected nursing care principles. (Class meets for five weeks, 22 contact hours per week.)

Nurs 105 (61105) Nursing 5

4 Sem Hrs

Prerequisite: Nursing 103. Introduction to basic care of the family during the childbearing experience, antepartum, uncomplicated labor and delivery, and normal postpartum. Selected evaluation, planning, and implementation principles and skills are developed for care of the child-bearing family. (Class meets for five weeks, 22 contact hours per week.)

Nurs 106 (61106) Nursing 6

4 Sem Hrs

Prerequisite: Nursing 103. An opportunity to apply the principles of growth and development to the child in the health care setting. Experiences are provided in the assessment and care of the newborn through the adolescent. Those illnesses common to this age group are studied within the framework of evaluation, planning, and implementation of nursing care. (Class meets for five weeks, 22 contact hours per week.)

Nurs 207 (61207) Nursing 7

5 Sem Hrs

Prerequisite: Nursing 103, Nursing 104, Nursing 105, and Nursing 106. An opportunity to study and apply the principles of nursing for selected adult patients. Those commonly occurring health problems related to sensory and motor disturbances and problems resulting from disturbed cellular growth and studied within the process of evaluation, planning, and implementation of nursing care. (Class meets for five weeks, 24 contact hours per week.)

Nurs 208 (61208) Nursing 8

5 Sem Hrs

Prerequisite: Nursing 103, Nursing 104, Nursing 105, and Nursing 106. An opportunity to study and apply the principles of nursing for selected adult patients. Health problems related to maintaining gaseous exchanges and transpiration of materials to and from cells are studied within the process of evaluation, planning, and implementation of nursing care. (Class meets for five weeks, 24 contact hours per week.)

Nurs 209 (61209) Nursing 9

5 Sem Hrs

Prerequisite: Nursing 103, Nursing 104, Nursing 105, and Psychology 231 or 241. An opportunity to study and apply the principles of nursing for patients experiencing problems with psychological adaptations. Experiences in psychiatric facilities are provided using the process of evaluation, planning, and implementation. NOTE: Course offering on a limited calendar basis contingent on availability of clinical facilities and faculty. (Class meets for five weeks, 24 contact hours per week.)

Nurs 210A (61210A) Nursing 9A

5 Sem Hrs

Prerequisite: Nursing 103, Nursing 104, Nursing 105, and Nursing 106. An optional course designed to provide an enrichment experience. Selected principles of emergency and disaster nursing are studied and applied. Students may select patient problems to study within the process of evaluation, planning, and implementation. (Class meets for five weeks, 24 contact hours per week.)

Nurs 221 (61221) Nursing 10

5 Sem Hrs

Prerequisite: Nursing 207, Nursing 208, and Nursing 209. The student will study and apply the principles of nursing for groups of patients who have multiple nursing care needs. The process of evaluation, planning, and implementation is applied to groups of patients. NOTE: This course may include evenings, nights, week-ends, holidays in clinical experience. (Class meets for five weeks, 26 contact hours per week.)

Nurs 222 (61222) Nursing 11

5 Sem Hrs

Prerequisite: Nursing 207, Nursing 208, and Nursing 209. Opportunity to study and practice principles of nursing applied to the acutely and/or critically ill adult and/or child. The process of evaluation, planning, and implementation is applied to patients in acute care settings, e.g., intensive care, coronary care, neonatal intensive care. NOTE: This course may include evenings, nights, week-ends, holidays in clinical experience. (Class meets for five weeks, 26 contact hours per week.)

Nurs 223 (61223) Nursing 12

5 Sem Hrs

Prerequisite: Nursing 207, Nursing 208, and Nursing 209. Opportunity to study and practice principles of nursing in a team leadership role. Principles of management systems, change, and group dynamics are applied within the process of evaluation, planning and implementation. NOTE: This course may include evenings, nights, week-ends, holidays in clinical experience. (Class meets for five weeks, 26 contact hours per week.)

Nurs. 290-299 (61290-61299) Special Projects in Nursing

(See page 57)

ALLIED HEALTH

Chal S. Bauer, Coordinator of Radiologic Technology

Assistant Professor

John M. Flattery

Phyllis A. Jernstadt

Instructor

Marilyn Fischer

Susan F. Harper

DENTAL ASSISTING**DA 111 (62111) Introduction to Dental Assisting**

1 Sem Hr

An introduction to the dental profession. The role of the dental assistant as a member of the dental health team will be identified. (1-0)

DA 112 (62112) Dental Morphology and Physiology

2 Sem Hrs

The study of tooth forms, occlusion, and dental terminology as it relates to teeth and their functions. (1-3)

DA 113 (62113) Dental Instruments and Equipment

2 Sem Hrs

Introduction to dental instruments, equipment; identification, care, use and maintenance. (1-3)

DA 114 (62114) Preventive Dentistry

1 Sem Hr

The study of oral hygiene techniques, diagnostic laboratory procedures, including dietary analysis used in the prevention of dental disease. (1-0)

DA 151 (62151) Dental Materials and Lab Procedures

4 Sem Hrs

Prerequisite: Successful completion of each previous dental assisting course. The study of gypsum products, impression materials and restorative materials; their physical properties, preparation, and manipulation. The construction of base plates, bite rims, and custom impressions trays. (3-3)

DA 152 (62152) Dental Roentgenology

2 Sem Hrs

Prerequisite: Successful completion of each previous dental assisting course. The study of the principles of properties of x-rays, equipment, and materials used in dental roentgenology. (1-3)

DA 153 (62153) Operative Dentistry

3 Sem Hrs

Prerequisite: Successful completion of each previous dental assisting course. Chairside assisting in general practice. Pre-operative procedures, care of patient, operative procedures, and post-operative care. (2-3)

DA 212 (62212) Dental Roentgenology 1 Sem Hr
Prerequisite: Successful completion of each previous dental assisting course. A continuation of DA 152 Dental Roentgenology. (0-3)

DA 213 (62213) Operative Procedure 3 Sem Hrs
Prerequisite: Successful completion of each previous dental assisting course. A continuation of Operative Procedure, with emphasis on practical application. (2-3)

DA 214 (62214) Preventive Dentistry 2 Sem Hrs
Prerequisite: Successful completion of each previous dental assisting course. A continuation of DA 114 Preventive Dentistry with laboratory application. (1-3)

DA 215 (62215) Dental Office Practice 3 Sem Hrs
Prerequisite: Successful completion of each previous dental assisting course. A course in office management with emphasis on patient and office records, communications, supplies, and appointment control. (3-0)

DA 251 (62251) Internship—Operative 7 Sem Hrs
Prerequisite: Successful completion of each previous dental assisting course. Students will be assigned to work in a dental office, making practical application of all previous course work. (0-21)

DA 293 (62293) Human Potential 1 Sem Hr
Prerequisite: Successful completion of each previous dental assisting course. Small group sessions designed to increase communication. The focus and emphasis is completely on the positive and in developing a personality that will be an asset in the dental office. Each student will be expected to identify and increase utilization of personality and communication strengths which will facilitate better "on-the-job" functioning and improve interpersonal relations. (1-0)

DA 290-299 (62290-62299) Special Projects in Dental Assisting
(See page 57)

RADIOLOGIC TECHNOLOGY

Rad Tech 102 (63102) Radiographic Physics 3 Sem Hrs
Prerequisite: Completion of Allied Health 104 and Radiologic Technology 111 with a minimum grade of "C." Designed to familiarize the student with basic physical principles. Deals with mechanics, heat, sound, magnetism, electricity, and light. Emphasis placed on applicability of radiology. (3-0)

Rad Tech 111 (63111) Introduction to Radiologic Technology 3 Sem Hrs
Prerequisite: Completion of a high school program which includes Algebra I and Algebra II or geometry, one year of biology, one year of chemistry or physics, or equivalency as determined by the appropriate discipline. The theory, history, properties of x-ray, radiographic procedures and positioning as background for further training in radiologic technology. Three hours per week devoted to practice of the theory. This practice will be in the college laboratory. (2-3)

Rad Tech 112 (63112) Radiologic Technology I 4 Sem Hrs
Prerequisite: Completion of Allied Health 104 and Radiologic Technology 111 with a minimum grade of "C." Three hours of lecture per week on campus. A continuation of the properties of x-ray, radiographic procedures and positioning. Nursing procedures and sterile techniques used in radiographic practice. Three hours per week devoted to practice of the theory. This practice will be in the college laboratory. (3-3)

Rad Tech 113 (63113) Radiologic Technology II 8 Sem Hrs
Prerequisite: Completion of Allied Health 105, Radiologic Technology 112 and 102, with a minimum grade of "C" in each course. Three hours per week of lecture on campus include continuation of radiographic positioning, radiography of the pediatric patient, and management principles in radiology. Fifteen hours per week allotted to practice of basic radiography under close supervision in the clinical situation at the hospital x-ray department. (3-15)

Rad Tech 211 (63211) Advanced Radiologic Technology I 10 Sem Hrs
Prerequisite: Completion of Radiologic Technology 113 with a minimum grade of "C." Three hours of lecture per week on campus and two hours per week at the hospital. Lectures will include special radiographic procedures, the use of various contrast media, advanced study in radiation protection plus film critiques and general review of specific areas of study. Twenty hours per week devoted to practice of the theory. This practice will be in the hospital x-ray department. (5-20)

Rad Tech 212 (63212) Advanced Radiologic Technology II 11 Sem Hrs
Prerequisite: Completion of Radiologic Technology 211 with a minimum grade of "C." Three hours of lecture per week on campus and two hours per week at the hospital. Subject material this semester will cover a survey of medical and surgical diseases and their relationship to radiography plus basic principles and practices in nuclear medicine and radiation therapy. Overview of previous courses and film conferences will be presented in the hospital class periods. Twenty hours per week will be devoted to practice of basic radiographic procedures at the hospital. (5-20)

Rad Tech 213 (63213)**Radiologic Technology Internship I**

12 Sem Hrs

Prerequisite: Completion of Radiologic Technology 212 with a minimum grade of "C." This is a graduation requirement: Thirty-eight hours per week of continuing practical application of radiologic technology. Experience will be under the direction of the radiologist director and technical supervisor of the affiliating hospital departments of radiology. Two hours per week of lecture at the hospital will be devoted to film conferences. (2-38)

Rad Tech 311 (63311)**Radiologic Technology Internship II**

12 Sem Hrs

Prerequisite: Completion of Radiologic Technology 213 with a minimum grade of "C." Continuation of internship clinical practice of 38 hours per week. Two hours per week of lecture on campus will be devoted equally to film conferences and general review. (2-38)

Rad Tech 312 (63312)**Radiologic Technology Internship III**

12 Sem Hrs

Prerequisite: Completion of Radiologic Technology 311 with a minimum grade of "C." Continuation of internship clinical practice of 38 hours per week. Two hours per week of lecture on campus will be devoted equally to film conferences and general review. (2-38)

Rad Tech 290-299 (63290-63299) Special Projects in Radiologic Technology

(See page 57)

ALLIED HEALTH**AH 101 (68101)****Allied Health Anatomy and Physiology**

4 Sem Hrs

Prerequisite: None. High school biology and chemistry desirable. An integration of relevant physical, chemical, anatomical and physiological concepts into a comprehensive understanding of health and disease in the human organism. (First sequential course for Associate Degree in Nursing.) (3-3)

AH 102 (68102)**Allied Health Anatomy and Physiology**

4 Sem Hrs

Prerequisite: Allied Health 101. A sequential continuation of Allied Health 101. (Second sequential course for Associate Degree in Nursing.) (3-3)

AH 103 (68103) Integrated Allied Health Sciences

4 Sem Hrs

Prerequisite: Allied Health 101; or Biology 111; or permission of the Instructor. A survey of general microbiological principles which emphasizes mechanisms of infection and pathology immune response, and public health practices. (3-3)

AH 104 (68104)**Integrated Radiologic Technology Science**

5 Sem Hrs

Prerequisite: Completion of a high school program which includes Algebra I and Algebra II or geometry, one year of biology, one year of chemistry or physics, or equivalency as determined by the appropriate discipline. The course is designed to provide a basic knowledge of the structure and general functions of the various tissues, organs, and systems of the human body; to provide sufficient background in microbiology to develop an adequate appreciation for aseptic techniques in radiology; and to provide a basic knowledge of chemistry and physics to facilitate understanding of concepts in the areas of physiology, microbiology, and radiology. Applications to radiology will be integrated throughout the course. Topics to be covered are concepts of chemistry and physics, cells and tissues, the integument, the skeletal system, muscles and joints. (4-3)

AH 105 (68105)**Integrated Radiologic Technology Science**

5 Sem Hrs

Prerequisite: Completion of Allied Health 104 with a minimum grade of "C." This course is a continuation of Allied Health 104. Topics to be covered are the digestive system, circulatory system, respiratory system, excretory system, nervous system, endocrine system, reproductive system, and principles of microbiology. Applications to radiology will be integrated throughout the course. (4-3)

AH 107 (68107) Integrated Dental Science

5 Sem Hrs

Prerequisite: None. The gross microscopic anatomy of the head and neck with particular emphasis on oral structures. Concepts of cell physiology and biochemistry are developed into general principles of pharmacology and oral pathology. (4-3)

AH 108 (68108) Integrated Dental Science

5 Sem Hrs

Prerequisite: Allied Health 107. The general anatomy and physiology of the human organ systems. Concepts of disease, anti-sepsis, and public health are integrated into the total course format. (4-3)

AH 111 (68111) Medical Terminology

2 Sem Hrs

Prerequisite: None. Designed to develop a basic understanding of the spelling, meaning and pronunciation of commonly used prefixes, suffixes, and root words, and their combining forms, used in all fields of allied health. (2-0)

AH 114 (68114)**Integrated Medical Science and Terminology I**

6 Sem Hrs

A systematic study of terminology in the major medical disciplines with particular emphasis in the areas of anatomy, physiology and pathology. The symptomatic, operative, therapeutic and diagnostic terminology is investigated for each medical discipline. (6-0)

AH 115 (68115)

Integrated Medical Science and Terminology II 6 Sem Hrs
 Prerequisite: Allied Health 114. A systematic study of terminology in the major medical disciplines with particular emphasis in the areas of anatomy, physiology, and pathology. The symptomatic, operative, therapeutic and diagnostic terminology is investigated for each medical discipline. (6-0)

AH 117 (68117) Assisting the

Physician with Examination and Treatment 2 Sem Hrs
 The development of skills to assist the physician in the examination room including preparation of the patient and equipment, determination of vital signs, and assisting the physician with the administration of treatments and medication. (2-1)

AH 118 (68118)

Basic Medical Laboratory Techniques 2 Sem Hrs
 A survey of clinical laboratory methodology with the development of competency in the areas of complete blood counts, urinalysis, blood typing, bacterical culturing and sensitivity testing, simple chemical analysis, and techniques of electrocardiography. (2-1)

AH 290-299 (68290-68299) Special Problems in Allied Health
 (See page 57)

HEALTH, PHYSICAL EDUCATION, AND RECREATION DIVISION

Division Chairman—Lynn V. Conway, Associate Professor

Associate Professor

Dr. Barry D. Campbell
 Charlotte A. Denman
 Crawford E. Kennedy
 Richard W. Prentice
 Elanore M. Thompson

Assistant Professor

Patricia A. O'Toole
 Paul D. Radlinski
 James S. Still
 Jean S. Treadway

ACTIVITY COURSES**PE 101 (65101) Physical Fitness**

1 Sem Hr
 Fitness through the use of calisthenics and self-testing exercises.

Physical Fitness tests will be given and individual improvement records kept. (0-2)

PE 102 (65102) Physical Conditioning Through Sports 1 Sem Hr
 Conditioning through the use of selected sport activities. (0-2)

PE 103 (65103) Physical Conditioning for Women 1 Sem Hr
 Conditioning through the use of selected sport activities. (0-2)

PE 112 (65112) Basketball 1 Sem Hr
 Covers basic skills of passing, dribbling, shooting, and team play. Rules and strategy also included. (0-2)

PE 113 (65113) Field Hockey 1 Sem Hr
 Rules, fundamental skills and team play in field hockey. (0-2)

PE 114 (65114) Soccer 1 Sem Hr
 Basic skills in kicking, dribbling, heading, and positional play. Rules and strategy are included. (0-2)

PE 115 (65115) Softball 1 Sem Hr
 Covers throwing, catching, batting, and base running, along with the rules of play. (0-2)

PE 116 (65116) Beginning Handball 1 Sem Hr
 This course is designed to acquaint the students with the rudimentary skills that are necessary to participate in four-wall handball. (0-2)

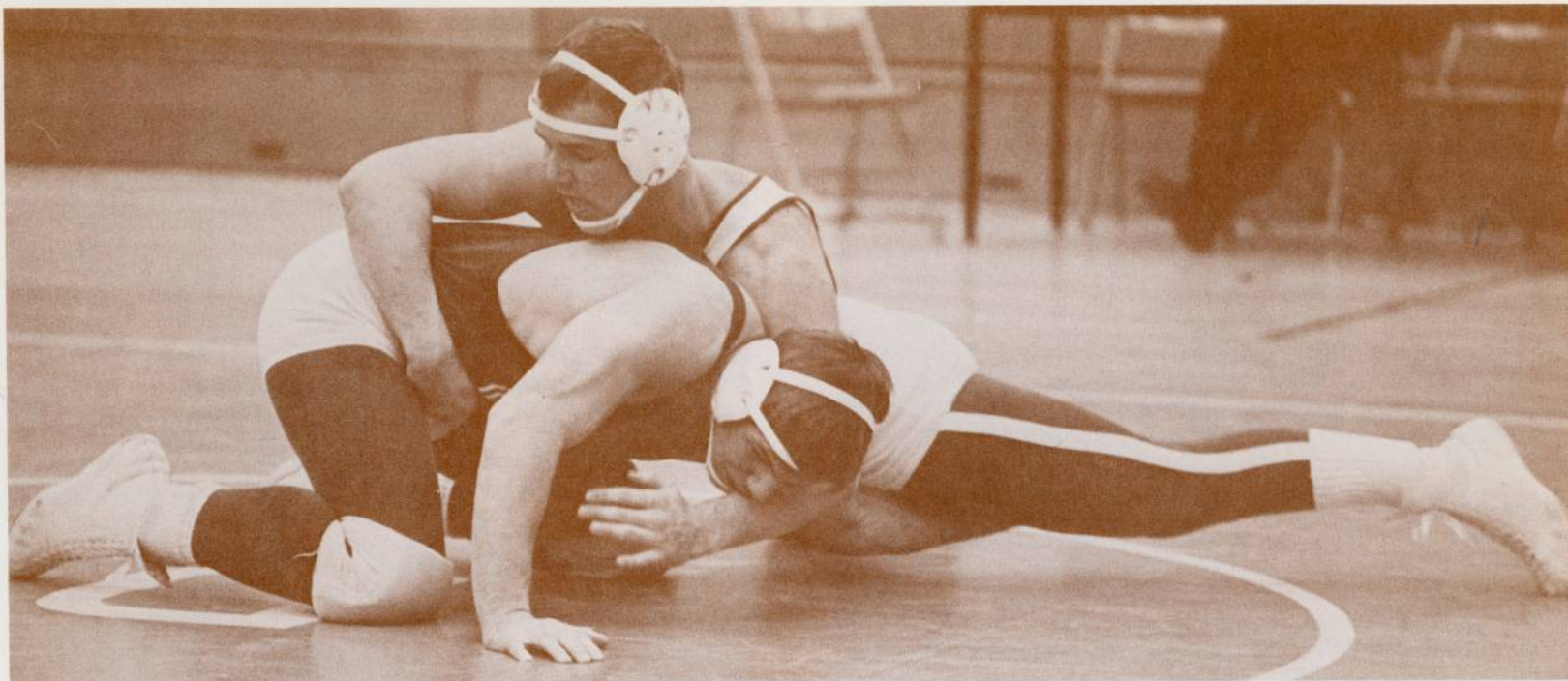
PE 117 (65117) Soccer II 1 Sem Hr
 Prerequisite: Physical Education 114 or permission of instructor. Emphasis is placed on: a) the advanced skills of passing, passing and overlapping, heading, trapping, and shooting; b) understanding the offensive and defensive strategies of modern systems of soccer. (0-2)

PE 118 (65118) Volleyball 1 Sem Hr
 Basic skills of handling the ball, passing, setting, spiking, net-rebound play, and blocking. Rules and strategy are included. (0-2)

PE 119 (65119) Beginning Skating-Figure 1 Sem Hr
 A basic course to help each student gain an overall view of the sport of Figure Skating. Emphasis on balance, strength, and coordination in developing proper techniques in figure skating. (0-2)

PE 121 (65121) Sports Judo for Women 1 Sem Hr
 Introduction to the rules, skills and courtesies in sports judo as well as the special conditioning required. (0-2)

PE 122 (65122) Badminton 1 Sem Hr
 Techniques and use of the various shots, along with rules and strategy. (0-2)



PE 123 (65123) Fencing 1 Sem Hr
An introduction to foil fencing, its basic fundamentals, techniques, rules, and safety measures. (0-2)

PE 124 (65124) Intermediate Sports Judo for Women 1 Sem Hr
Prerequisite: Phys. Ed. 121 or permission of instructor. Continuing improvement of beginning techniques, additional throwing, ground-work, and combination throwing techniques taught. (0-2)

PE 125 (65125) Sports Judo 1 Sem Hr
Introduction to the rules, skills, and courtesies in sports judo as well as the special conditioning required. (0-2)

PE 126 (65126) Intermediate Sports Judo 1 Sem Hr
Prerequisite: Physical Education 125 or permission of the instructor. Continuing improvement of beginning techniques, additional throwing, groundwork, and combination throwing techniques taught. (0-2)

PE 127 (65127) Tennis 1 Sem Hr
An introduction to the basic strokes in tennis along with rules, strategy, and courtesies of the game. (0-2)

PE 128 (65128) Wrestling 1 Sem Hr
Covers special conditioning, take-downs, elementary holds, breaks, and plan as well as rules. (0-2)

PE 131 (65131) Cycling 1 Sem Hr
Emphasis is placed on the fundamentals of cycling. The course will cover selection and maintenance of equipment, gearing, pedaling, the techniques of shifting. Inherent in this activity will be physical conditioning to successfully complete the course. (0-2)

PE 132 (65132) Archery 1 Sem Hr
Introduction to the basic skills in shooting, in target and field archery. (0-2)

PE 133 (65133) Bowling 1 Sem Hr
Fundamentals of starting stance, approach, and delivery. The use of both spot and pin bowling, courtesies, rules and method of scoring. Special student rates on alley fees. (0-2)

PE 134 (65134) Cross Country 1 Sem Hr
Techniques and conditioning for competitive distance running. Permission of instructor is required. (0-2)

PE 135 (65135) Golf 1 Sem Hr
Fundamentals in the use of woods, irons, and putter along with the rules and courtesies of the game. (0-2)

PE 136 (65136) Gymnastics 1 Sem Hr
Emphasis is placed on the fundamental skills of tumbling and apparatus work. (0-2)

PE 137 (65137) Women's Gymnastics 1 Sem Hr
Emphasis is placed on the fundamental skills of apparatus work, including the uneven parallel bars; trampoline; balance beam, and also free exercise. (0-2)

PE 138 (65138) Track and Field 1 Sem Hr
Practice in various skills of running, hurling, jumping, vaulting, and weights. (0-2)

PE 139 (65139) Weight Training 1 Sem Hr
A systematic program of bodily development through repetitive weight training. (0-2)

PE 141 (65141) Folk and Square Dancing 1 Sem Hr
A course designed to introduce folk and square dancing of many countries. (0-2)

PE 142 (65142) Modern Dancing I 1 Sem Hr
A course designed to teach the fundamentals of body movement and simple choreography. (0-2)

PE 143 (65143) Social Dancing I 1 Sem Hr
This course involves basic dance steps of the Fox Trot, Waltz, Swing, Cha Cha, Rhumba, Samba, Tango. (0-2)

PE 151 (65151) Beginning Swimming 1 Sem Hr
A "learn to swim" course for beginners. Safety measures in swimming are stressed. (0-2)

PE 152 (65152) Intermediate Swimming 1 Sem Hr
Prerequisite: Physical Education 151 or consent of instructor. Skills in swimming the crawl, side stroke, elementary back and breast stroke. Safety measures and elementary forms of rescue. (0-2)

PE 153 (65153) Advanced Swimming 1 Sem Hr
Prerequisite: Physical Education 152 or consent of instructor. Improvement of strokes learned in Physical Education 152, along with the back stroke and elementary diving. (0-2)

PE 154 (65154) Senior Life Saving 1 Sem Hr
Prerequisite: Consent of instructor. Instruction in American Red Cross Senior Life Saving leading toward its certificate. (0-2)

PE 155 (65155) Water Safety Instructor 1 Sem Hr
Prerequisite: A current Senior Life Saving Certificate and the consent of the instructor. Instructions in the American Red Cross Water Safety Instructor Course leading toward its certificate. (1-1)



PE 156 (65156) Canoeing 1 Sem Hr
Prerequisite: Ability to swim. Instruction in basic American Red Cross canoeing course. Involves one-day trips to nearby lakes and rivers. Usually six sessions of five hours each. Reduced student fees for canoe rentals. (0-2)

PE 160 (65160) Beginning Skiing 1 Sem Hr
Emphasis is placed on the fundamental skills. The student will be taught snowplow, snowplow turn, traversing, and stem turn. (0-2)

PE 161 (65161) Intermediate Skiing 1 Sem Hr
Prerequisite: None. Student will begin the transitions from steered turn to sliding turn. Side slipping, uphill christie and stem christie will be taught. (0-2)

PE 162 (65162) Advanced Skiing 1 Sem Hr
Prerequisite: None. Student will learn finer points of parallel skiing. Parallel christie, parallel with check, and short swing will be taught. (0-2)

PE 163 (65163) Ski Racing 1 Sem Hr
Basic fundamentals of racing slalom, giant slalom, and down-hill will be covered. (0-2)

PE 164 (65164) Ski Touring 1 Sem Hr
Emphasis is placed on fundamentals in cross country skiing. Students will be taught selection and care of equipment, rudimentary ski movements, step turn, moving ahead over snow, controlling speed, half plow turn, poling, moving step and moving step turn, kick turn, skiing uphill, and waxing for various temperatures. (0-2)

PE 218 (65218) Advanced Volleyball 1 Sem Hr
Prerequisite: Physical Education 118 or permission of instructor. Continuing improvement of beginning skills and the addition of experience in advanced play (screw under step and pass, back and lateral set, spiking in detail, dink, attack, and soft blocking, and the dive and Japanese roll). Advanced strategies including offensive play patterns (4-0, 6-0, and switching) and defensive play patterns (middle back and middle up). Use of current USVBA rules. (0-2)

PE 227 (65227) Intermediate Tennis 1 Sem Hr
Designed to further refine the skills (ground strokes, serving, volleying) and knowledge (rules, strategies, and techniques of participation) of the beginning tennis player. (1-1)

PE 235 (65235) Intermediate Golf 1 Sem Hr
Emphasis will be directed to the acquisition of the finer skills of the game of golf. Major attention will be given to the areas of shot placement and control, club selection, shot selection, and rule interpretation. (1-1)

PE 237 (65237) Women's Advanced Gymnastics 1 Sem Hr
Development of intermediate and advanced level skills in women's gymnastics, with emphasis on techniques and appropriate safety procedures. (1-1)

PE 242 (65242) Modern Dance II 1 Sem Hr
Prerequisite: Physical Education 142 or permission of instructor. Activities designed to improve strength, flexibility, rhythmic and spatial awareness, coordination, and locomotor movements. Approximately one-half of the course is devoted to elements of choreography and student composition. (0-2)

PE 243 (65243) Social Dance II 1 Sem Hr
Prerequisite: Physical Education 143 or permission of instructor. Covers intermediate level steps in the Fox Trot, Waltz, Swing, Cha-Cha, Rhumba, Samba, Tango, and introduces the Mambo. (0-2)

THEORY COURSES

PE 161 (67161) Introduction to Physical Education 2 Sem Hrs
A study of the profession of physical education, its background, basic principles, relationships to growth and mental health, and vocational opportunities. (2-0)

PE 162 (67162) Intramurals 2 Sem Hrs
Prerequisite: Physical Education 161 or permission of instructor. A study of the finances, facility utilization, organization and awards as they pertain to intramural programs is emphasized. (2-0)

PE 163 (67163) Officiating of Men's Sports 2 Sem Hrs
This course will cover the mechanics and rules governing the officiating of football and basketball. Open to male students. Students will have an opportunity to gain practical experience. (2-0)

PE 164 (67164) Athletic Training 2 Sem Hrs
Prerequisite: None. A course designed to provide the student with experiences and insight into the prevention, immediate treatment, and rehabilitation of injuries commonly sustained by participants in athletics. (2-0)

HE 165 (67165) First Aid and Safety 2 Sem Hrs
Study and practice in first aid care. Safety aspects in sports, recreational activities, school, home, farm, industry, highway, and community. Student will pursue the standard first aid and personal safety course of the American Red Cross. Certificate will be granted upon successful completion of the course. (2-1)

PE 166 (67166)

Teaching of Elementary Physical Education 3 Sem Hrs
A course for prospective teachers, which deals with curriculum development, principles, methods, and materials used in conjunction with the teaching of physical education in the elementary schools. (3-0)

RE 167 (67167) Recreation Leadership

3 Sem Hrs
A study of the techniques, methods, and materials for leadership in directing various recreational program activities in the areas of low organized games, social events, simple arts and crafts, dramatics, dance calling, and individual sports. (3-0)

HE 171 (67171) Health Education

3 Sem Hrs
Prerequisite: None. Foundation health science course with special emphasis on personal well-being. Attention is given to mental health, substance abuse, family health, the disease process, nutrition education, consumer health, and total fitness. (3-0)

HE 172 (67172) Introduction to Community Health

2 Sem Hrs
Explores the role of individuals and the various health agencies as they attempt to maintain a high level of community health. Attention is given to the major community health problems of the day including sanitation, disease control, mental health, recreation and medical care. Utilization of community health resources through field study is an integral part of the course. (2-0)

PE 180 (67180) Theory and Practice of Field Hockey for Women

2 Sem Hrs
The techniques, team play, and rules of field hockey. (2-0)

PE 182 (67182) Theory and Practice of Basketball

2 Sem Hrs
The techniques, team play, and rules of basketball. (2-0)

PE 184 (67184) Theory and Practice of Volleyball

2 Sem Hrs
Analysis and practice of techniques, team play, and rule of volleyball. This course is designed to give the major the necessary skill and planning background to teach volleyball. (2-0)

PE 186 (67186)

Tumbling, Acrobatics, and Trampoline 2 Sem Hrs
Basic gymnastic activity course recommended. Theory and Practice (Techniques and procedures) for teaching beginning and intermediate skills in Tumbling, Acrobatics, and Trampoline. The course material presented may be used for elementary and/or secondary physical education programs as well as for any recreational programs. (2-0)

PE 187 (67187)

Apparatus and Floor Exercise for Women 2 Sem Hrs
Prerequisite: PE 186—Tumbling, Acrobatics, and Trampoline. Theory and practice (techniques and procedures) for teaching beginning and intermediate skills in floor exercise, balance beam, vaulting, and uneven parallel bars. The course material presented may be used for elementary and/or secondary physical education programs as well as for any recreational programs. (2-0)

HE 209 (67209) Introduction to Safety Education

2 Sem Hrs
Emphasizes man and his ability to live safely in his highly complex and technological environment. Attention is given to safety as it relates to the home, the community, rural living, work, the school, recreational activities and transportation. (2-0)

PE 210 (67210)

The Theory and Techniques of Coaching Basketball 2 Sem Hrs
The course is designed to develop an understanding of and proficiency in the theory and techniques of coaching mens and womens basketball. Primary emphasis will be directed to the coaching of athletes from grades 4-12. (2-0)

HE 211 (67211) Basic Anatomy

3 Sem Hrs
Prerequisite: None. An introductory course in the structure and function of the human body with special emphasis on the skeletal, muscular, nervous, endocrine, circulatory and respiratory systems. (3-0)

PE 212 (67212) Kinesiology

3 Sem Hrs
Prerequisite: HE 211. This course is designed to acquaint the student with the functional aspects of human performance and their applications. Attention is given to biomechanics musculoskeletal anatomy, and neuromuscular physiology as they relate to movement. (2-2)

PE 213 (67213) Theory and Practice of Soccer

2 Sem Hrs
Prerequisite: None. To provide the prospective physical education teacher and/or coach with the history, techniques, fundamentals, equipment, methods of training, and methods of teaching soccer. (2-0)

PE 214 (67214) Officiating of Women's Sports for Women

2 Sem Hrs
Prerequisite: Physical Education 180, 182, and 184 or with permission of instructor. Rules and techniques of officiating field sports, basketball, and volleyball. (2-0)

HE 215 (67215) First Aid Instructors

2 Sem Hrs
Prerequisite: American Red Cross Standard Certificate, or permission of instructor. Methods of teaching first aid to the various age and ability levels. (2-0)

PE 216 (67216) Theory and Practice of Folk and Square Dance

2 Sem Hrs

Prerequisite: None. Analysis and practice of skills and techniques of representative folk and square dances. (2-0)

PE 218 (67218) Theory and Practice of Fundamental Movement for Women

2 Sem Hrs

Individual analysis of basic motor skills which are essential for efficient movement and physical fitness. (2-0)

PE 220 (67220) Theory and Practice of Modern Dance

2 Sem Hrs

Theory and practice of basic techniques and movement patterns for modern dance. (2-0)

PE 222 (67222)

Advanced Techniques of Field Hockey

2 Sem Hrs

Prerequisite: Physical Education 180. Advanced skills and strategy of field hockey, selection and preparation of a team. (2-0)

PE 236 (67236) Women's Advanced Gymnastics

1 Sem Hr

Development of intermediate and advanced level skills in women's gymnastics, with emphasis on teaching techniques and appropriate safety procedures. (0-2)

HE 245 (67245) Death Education

2 Sem Hrs

Prerequisite: None. This course is concerned with an analysis of the nature of death. Attention is given to some of the philosophical, religious, cultural, biological, psychological, sociological, economical, and legal aspects of death and dying. (2-0)

HE, PE, RE 290-299 (65290-65299 & 67290-67299)

Special Projects in Health, Physical Education and Recreation
(See page 57)

SCIENCE DIVISION

Division Chairman—Dr. Richard H. Northrup, Professor

Professor

Bruce C. Corliss

Associate Professor

Lorne P. Adams
Carl F. Altenhof
Clayton H. Borgman
Carl F. Cisky
Dr. Wilbur L. Dungy
Eldon D. Enger
Andrew H. Gibson

J. Sumitra Heinert
Robert J. Hilbert
J. Richard Kormelink
Dr. Clark F. Most, Jr.
Frederick C. Ross
Rodney J. Smith
Dr. Edward J. Stry

Assistant Professor

Dr. Barry A. Carlson
Dr. Paul A. Catacosinos
G. Nelson Greene
Dr. Paul E. Koblas
Ronald L. Sharp
Arthur G. Smith
Marion H. Whittaker
David R. Williams

BIOLOGY

Biol 111 (69111) Principles of Biology

4 Sem Hrs

Prerequisite: None. An introduction to the fundamental concepts underlying biology. Major topics considered will be: evolutionary survey of plant and animal kingdoms, cellular structure and metabolism, and the biology of populations. The role of biology in our present world will be the unifying theme for the course. Required of all biology majors and applicable as science credit for non-majors. (3-3)

Biol 112 (69112) General Biology

4 Sem Hrs

Prerequisite: Biology 111. A course which deals with the application of the concepts of biology to humans, specifically as the concepts relate to human structure, function, and heredity. (3-3)

Biol 115 (69115) Environmental Science

2 Sem Hrs

Prerequisite: None. A course designed to develop an understanding and appreciation of the interacting forces that comprise our environment. Emphasis will center on the modern ecological problems involved in man's relationship to the geographic area under study as it has been affected by the history, economics, and ecological conditions he has created. Using the Saginaw Valley, students will examine various aspects of the exploitation, conservation, and control of the Valley's environment. One required field trip. (2-0)

Biol 151 (69151) Botany

4 Sem Hrs

Prerequisite: Biology 111. Chemistry recommended. A study of the basic physiological processes and the structure necessary to carry on these processes. Survey of the plant kingdom with emphasis upon their evolutionary relationships and their life cycles. The environmental importance of plants is also discussed. (2-6)

Biol 161 (69161) Zoology

4 Sem Hrs

Prerequisite: Biology 111, Chemistry recommended. A course which deals with classification, evolutionary relationships and a comparison of structure and of function of the major groups of animals. (2-6)

Biol 215 (69215) Field Ecology 4 Sem Hrs
Prerequisite: Biology 111. This course will explore a variety of ecological interactions, with special emphasis on the detailed field analysis of particular ecosystems, the successional stages leading to a climax community, and the natural history of particular plants and animals. Techniques for the analysis of populations and collection of field data will be an integral part of the course. (3-3)

Biol 241 (69241) Physiology 4 Sem Hrs
Prerequisite: Biology 161 or a year of college biology or permission of instructor. A study of the function of the major organ systems of animals with special emphasis on the human body. The laboratory will stress the experimental approach to gathering and analyzing physiological data. (3-3)

Biol 261 (69261) Comparative Vertebrate Anatomy 4 Sem Hrs
Prerequisite: Biology 161. Evolution of the higher taxonomic groups of chordates and a comparative study of their gross morphology. Emphasis on dissection of various vertebrates. (2-6)

Biol 271 (69271) Genetics 4 Sem Hrs
Prerequisite: Biology 112, or Biology 151 or Biology 161. A study of classical and molecular genetics. Hereditary material will be considered with regard to its proliferation, its control of protein synthesis, and with regard to the effect of accumulated genetic changes upon evolution. (3-3)

Biol 290-299 (69290-69299) Special Projects in Biology
(See page 57)

AGRICULTURE

Soil Sci 210 Fundamental of Soil Science 4 Sem Hrs
Prerequisite: Chemistry 102, 122, or 112. Principles of the origin and development of soils. Relationship of properties to utilization and soil fertility to plant composition and animal health. Emphasis is placed on changing soils to serve man. When offered in the fall, the orientation is toward earth and animal sciences; in the spring, the orientation is toward soil and plant sciences. (4-0)

Crop Sci 250 Plant and Animal Genetics 4 Sem Hrs
Prerequisite: Biology 151 or Biology 161. Fundamental genetic principles with particular reference to problems in plant and animal biology. (3-2)

Animal Sci 325 Applied Animal Nutrition 4 Sem Hrs
Prerequisite: Chemistry 112 or 122 and Chemistry 211. Livestock feeds and their nutrients. Functions of and requirements for nutrients. Evaluation of feeds. Feeding practices. Formulations of rations of beef and dairy cattle, horses, poultry, sheep, and swine. (3-2)

Agr 290-299 Special Projects in Agriculture
(See page 57)

AVIATION

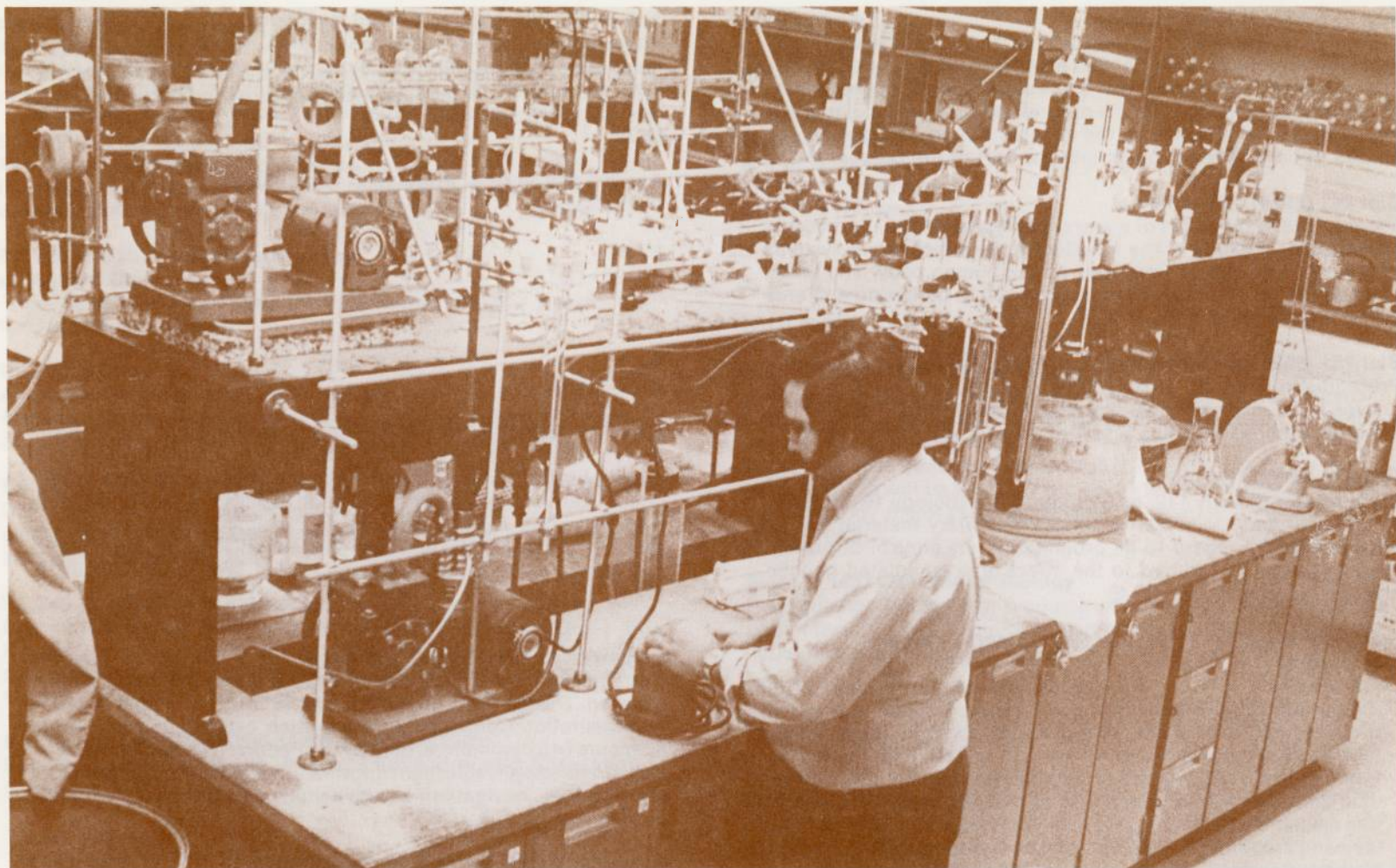
Avia 101 (70101) Private Pilot Ground Training 4 Sem Hrs
Prerequisite: None. Designed to provide the student with basic principles of flight that are of concern to the private pilot. Special emphasis will be placed on preparing one to pass the Federal Aviation Administration Private Pilot written examination. Emphasis is given to: Preflight facts. Federal Aviation Agency regulations, meteorology, flight computer, navigation and radio navigation. (4-0)

Avia 110 (70110) Commercial Pilot Ground Training 4 Sem Hrs
Prerequisite: Knowledge of the Private Ground School recommended. Designed to prepare students for the Federal Aviation Administration Commercial Pilot written examination leading to licensure of a commercial pilot by the Federal Aviation Administration. Covers applicable flight information publication, meteorology and weather, navigation, aerodynamics and principles of flight, aircraft instruments. (4-0)

Avia 201 (70201) Instrument Ground School 4 Sem Hrs
Prerequisite: Private Pilot License or Commercial Pilot License. Designed to prepare students for the Federal Aviation Administration Instrument Pilot Ground School written examination leading to licensure of a pilot by the Federal Aviation Administration. (4-0)

Avia 202 (70202) Weather 3 Sem Hrs
Prerequisite: Knowledge of Aviation 101, 110, and 201 recommended. Provides depth in understanding weather. Examines how and why of weather forms, the problems it presents, and solutions to those problems; interprets weather maps and sequence reports. (3-0)

Avia 290-299 (70290-70299) Special Projects in Aviation
(See page 57)



CHEMISTRY

In order to know which chemistry courses best apply to the student's curriculum, or if doubtful about proper course selections, it is recommended that the student talk with the science counselor.

Chem 100 (71100) Chemistry and the World 4 Sem Hrs
Prerequisite: None. An analysis of the impact of chemistry on our world. Rudimentary concepts of matter and energy will be explored, but particular emphasis will be on current issues such as pollution and the environment, power generation, population, and drugs. Laboratories will be oriented toward using basic techniques in making useful and interesting products. Recommended for elementary school teachers. No previous chemistry or mathematics required. (3-3)

Chem 101 (71101) General Chemistry 5 Sem Hrs
Prerequisite: None. Fundamental principles, including states of matter, laws of chemical combination, nomenclature, and chemical phenomena of interest to daily living. Designed as a preparation to Chemistry 111, for those students with no previous work in chemistry and to satisfy a science requirement in certain curricula. Students electing Chemistry 101 as a prerequisite for Chemistry 111 receive credit for only Chemistry 111 toward graduation from Delta College. (5-2)

Chem 102 (71102) General Chemistry 3 Sem Hrs
Continuation of Chemistry 101. Emphasis on equilibrium metals, and thermal reactions and non-metals. Also selected topics in organic and biochemistry. (3-2)

Chem 111 (71111) General and Inorganic Chemistry 4 Sem Hrs
Prerequisites: High school chemistry or Chemistry 101, and one year of high school algebra. A course with emphasis on an in-depth study of the theories and principles of atomic structure, bonding, stoichiometry, and the states of matter. This course is required for students who intend to enroll for more than one year of chemistry. Meets the needs of chemistry majors. (3-3)

Chem 112 (71112) General and Inorganic Chemistry 4 Sem Hrs
Prerequisite: Chemistry 111. Continuation of Chemistry 111. A study of chemical equilibria in water, including ionization, solubility, complex ion, acid base phenomena, and oxidation-reduction equilibria. The principles of electrochemistry, chemical thermodynamics, and chemical kinetics are discussed. Special topics such as the descriptive study of metals and non-metals are also discussed in this course. Meets the needs of chemistry majors. (4-3)

Chem 115 (71115) Engineering Problems 1 Sem Hr
Prerequisite: Chemistry 111. Recommended for engineering students whose curriculum requires five semester hours of chemistry.

Intended to familiarize the student with equilibrium, electrochemistry, and redox methods. (1-0)

Chem 122 (71122) General and Analytical Chemistry 5 Sem Hrs
Prerequisite: Chemistry 111. For chemistry majors. Chemical kinetics, equilibrium, electrochemistry, thermochemistry, and thermodynamics. Qualitative analysis of cations, and quantitative analysis experiments in the laboratory. (4-6)

Chem 201 (71201) Organic Chemistry 5 Sem Hrs
Prerequisite (or concurrent): Chemistry 112 or 122. A course in the basic principles of organic chemistry and laboratory techniques with some emphasis on medical and pharmaceutical applications. Meets the needs of students in medical and health fields or for a major in chemistry in most schools. (4-4)

Chem 202 (71202) Organic Chemistry 5 Sem Hrs
Prerequisite: Chemistry 201. A continuation of Chemistry 201. (4-4)

Chem 211 (71211) Organic Chemistry 5 Sem Hrs
Prerequisite (or concurrent): Chemistry 112 or 122. A course in the basic principles of organic chemistry and laboratory techniques with some emphasis on reaction mechanism kinetics, and thermodynamics. Meets the needs of students in engineering fields or for a major in chemistry. (4-4)

Chem 212 (71212) Organic Chemistry 5 Sem Hrs
Prerequisite: Chemistry 211. A continuation of Chemistry 211. (4-4)

Chem 221 (71221) Qualitative Analysis 4 Sem Hrs
Prerequisite: Chemistry 112. Principles of chemical equilibria with semi-micro chemical analysis of representative cations and anions. (3-6)

Chem 222 (71222) Quantitative Analysis 4 Sem Hrs
Prerequisite: Chemistry 122 or Chemistry 221. Similar to Chemistry 223 but adapted to the needs of medical technology students. Not accepted for chemistry or pre-medical majors. (3-6)

Chem 223 (71223) Quantitative Analysis 4 Sem Hrs
Prerequisite: Chemistry 122 or Chemistry 221. Theory and practice of volumetric and gravimetric analysis with major emphasis on volumetric analysis. (3-6)

Chem 290-299 (71290-71299) Special Projects in Chemistry
(See page 57)

CHEMICAL TECHNOLOGY

CT 111 (72111) Introduction to Chemical Technology

3 Sem Hrs

Prerequisite: None. Introduces the student to Chemical Technology as a career. Topics include significant figures, error limits, limits of precision for standard laboratory equipment, data taking, and the Handbook of Chemistry and Physics. Selected laboratory experiments are designed to acquaint the student with various phases of industrial chemistry procedures and equipment. (2-3)

CT 112 (72112) Chemical Technology Calculations

5 Sem Hrs

Prerequisite: Mathematics 111, 112, and 106. Emphasis is on the application of trigonometry, the slide rule and elementary statistics to problems of calculation which are encountered by the chemical technologist. Selected laboratory experiments are designed to furnish laboratory conditions for mathematical applications. (4-3)

CT 211 (72211) Principles of Organic Compounds

5 Sem Hrs

Prerequisite: Chemistry 101. An introduction to hydrocarbons and organic compounds. Includes bonding and structure (isomers), alkanes, alkenes, alcohols, aldehydes, ethers, esters, amines, ketones, cyclic compounds, organic acids, and polymerization. (5-0)

CT 215 (72215) Physical Principles

5 Sem Hrs

Prerequisite: Chemistry 102 and Physics 121. Basic principles of physical chemistry including states of matter, phase-equilibria, solutions, electrochemistry, physical properties, thermodynamics, and chemical kinetics. (5-0)

CT 221 (72221) Chemical Processes Calculations

3 Sem Hrs

Prerequisite: Chemical Technology 215. Stoichiometric principles—conservation of matter and energy. Topics include mass, heat, momentum transfer applied to heat transfer, fluid flow, distillation, humidity, drying evaporation, and extraction. (3-0)

CT 235 (72235) Industrial Laboratory Methods I

6 Sem Hrs

Prerequisite: Concurrent with or subsequent to Chemical Technology 211 and Chemical Technology 215. Lectures cover theory and usage of instrumentation. Laboratory experiments apply the principles covered in Chemical Technology 211 and Chemical Technology 215 to practical commercial problems using typical industrial laboratory hardware. (2-12)

CT 236 (72236) Industrial Laboratory Methods II

6 Sem Hrs

Prerequisite: Chemical Technology 235 and concurrent with or subsequent to Chemical Technology 221. A continuation of Chemical Technology 235 with emphasis on application of the principles covered in Chemical Technology 221. (3-9)

CT 250 (72250) Seminar and Special Projects

2 Sem Hrs

Prerequisite: Concurrent with or subsequent to Chemical Technology 221 and Chemical Technology 236. Designed to develop independent work habits through special projects of the pertinent and current nature. Emphasis will also be given to using library resources, technical journals, handbooks, and catalogs. (1-3)

CT 290-299 (72290-72299) Special Projects in Chemical Technology

(See page 57)

FIRE PROTECTION TECHNOLOGY

Fire Prot Tech 201 (73201) Fire Hazards I

3 Sem Hrs

Prerequisite: None. A basic course in the chemistry, use, storage, handling, control, transportation of, and fire protection against hazardous liquids, solids, gases, oxidizers, water-reactive chemicals, and gases. Demonstrations will illustrate readings and discussions. (3-0)

Fire Prot Tech 202 (73202) Fire Hazards II

3 Sem Hrs

A course in the control of and the fire protection against specific hazards connected with processing, handling, transporting, and storing flammable liquids, gases, solids; also the control of and fire protection against fire hazards in aviation, shipbuilding, use of radioactive material and radiation machines, building construction, business (hardware, farming, elevators, etc.), and house-keeping. (3-0)

Fire Prot Tech 290-299 (73290-73299) Special Projects in Fire Protection Technology

(See page 57)

GEOGRAPHY

Geog 105 (74105) Human Geography

4 Sem Hrs

Prerequisite: None. Study focuses on the aspects of geography concerned with man, his utilization of and his impact upon the natural environment. Included are population distribution and growth, settlement forms, utilization and conservation of natural resources, the impact of technology on human occupancy of the earth, man's role in modifying the earth's surface and the origin and spread of cultural elements. (4-0)

Geog 111 (74111) Physical Geography 4 Sem Hrs

Prerequisite: None. Study of the natural environment which is important to man and his activities; introduction to maps and physical features; earth-sun-moon relationships; earth materials, land forms; drainage; and major natural resources. Introduction to weather and climate, soils and vegetation—their character, causes, significance and distribution. (4-1)

Geog 113 (74113) World Cultural Geography 4 Sem Hrs

Prerequisite: None. Essential geographic characteristics and concepts of selected cultural regions of the world. These regions will be compared and contrasted in terms of their present and potential development. Examples will be selected from both the Western and Non-Western world. (4-0)

Geog 211 (74211) Economic Geography 4 Sem Hrs

Prerequisite: None. A survey of locational economic patterns and their interrelationships. Included are: energy production, manufacturing, transportation, etc. Special emphasis will be placed upon the study of social and spatial variation in urban-rural land use problems and analysis related to above, particularly those in the local and state area. (4-0)

Geog 222 (74222) Geography of Asia 3 Sem Hrs

Prerequisite: Geography 111, or 113 and permission of instructor. Regional geographic interpretation of the area as a continent. Study of relationships of physical, economic, social and political environment to human activity. (3-0)

Geog 223 (74223) Geography of Europe 3 Sem Hrs

Prerequisite: Geography 111, or 113 and permission of instructor. Similar to Geography 222 but applied to Europe. (3-0)

Geog 226 (74226)**Geography of United States and Canada** 3 Sem Hrs

Prerequisite: Geography 111, or 113 and permission of instructor. Similar to Geography 222 but applied to the United States and Canada. (3-0)

Geog 245 (74245) Geography of Michigan 2 Sem Hrs

Prerequisite: *One of the following* courses, Geog. 105, 111, 113, 211 or permission of instructor. A regional geographic interpretation of Michigan as a setting for economic activity within the state. Study focuses on the geographic relationships between the environment, and the cultural and economic activities within Michigan. (2-0)

Geog 290-299 (74290-74299) Special Projects in Geography

(See page 57)

GEOLOGY**Geol 101 (75101) Understanding the Earth** 4 Sem Hrs

Prerequisite: None. Recommended for students not majoring in science. An integrated approach to major geological topics selected from traditional Physical and Historical Geology courses. Selected events in the Earth's history which illustrate important geologic concepts, principles and processes will be examined. Laboratory studies include an introduction to common minerals, rocks, and fossils. One field trip is required. Students should elect either Geology 101 or Geology 111, but not both. (3-2)

Geol 111 (75111) Physical Geology 4 Sem Hrs

Prerequisite: None. Study of the overall structure of the earth and the rocks which form the crust. An introduction to the processes of erosion and weathering caused by the work of natural agents such as water and ice. Discussion of Plate Tectonic Theory and implications. Laboratory study of common rocks, minerals and selected fossils. One field trip is required. Students should elect either Geology 101 or Geology 111, but not both. (3-2)

Geol 112 (75112) Historical Geology 4 Sem Hrs

Prerequisite: Geology 101 or Geology 111. Study of the history of the Earth as recorded in rocks. Description of continental structural development in terms of various concepts such as Plate Tectonics and Geosynclinal theory using North America as the principle example. Origin and evolution of life. Laboratory work includes studies of invertebrate fossils and geologic map interpretation. One field trip is required. (3-2)

Geol 115 (75115) Introduction to Oceanography 4 Sem Hrs

An exploration of how the ocean has stabilized the surface environment of Earth. Consideration will be given to physical and chemical properties of seawater and its interactions through geologic time with the floor of the ocean and the atmosphere to produce an environment suitable for life. Man's relationship to the marine environment will be investigated from the standpoint of such issues as the increasing importance of the ocean as a source of natural resources, changing shoreline problems and pollution. (3-2)

Geol 122 (57122) Geology of Michigan 3 Sem Hrs

An interpretation of the origin and characteristics of the principal geological features of Michigan through the application of basic geological principles. Includes some identification of rocks, minerals and fossils. Occasional field trips. (3-0)

Geol 211 (75211) Mineralogy 4 Sem Hrs

Prerequisite: One semester of college chemistry (may be taken concurrently) or permission of the instructor. Introduction to the common crystal systems of minerals, followed by a study of the physical and chemical properties, occurrence, formation, and uses

of approximately 200 important economic and rock-forming minerals. (1-4)

Geol 221 (75221) Invertebrate Paleontology 3 Sem Hrs
Prerequisite: Geology 112 or permission of the instructor. Morphology, classification, development, and geologic range of the major invertebrate groups. (2-2)

Geol 231 (75231) World Mineral Resources (Non-Metallic) 3 Sem Hrs
Prerequisites: Geology 111 and 112 or permission of instructor. Study of the origin and geographic distribution of petroleum, coal, building stones, lime and cement, clay, sand and gravel, salt and gypsum fertilizers, gem stones, and other non-metallic minerals. Occasional field trips. (3-0)

Geol 232 (75232) World Mineral Resources (Metallic) 3 Sem Hrs
Prerequisites: Geology 111 and 112 or permission of instructor. Study of the origin and geographic distribution of iron, copper, lead, zinc, aluminum, radioactive minerals, and other metallic resources. Occasional field trips. (3-0)

Geol 290-299 (75290-75299) Special Projects in Geology
(See page 57)

PHYSICAL SCIENCE

Phys Sci 101 (78101) Physical Science 4 Sem Hrs
Prerequisite: High School algebra and plane geometry. For students interested in understanding the major concepts of geology, chemistry, astronomy, and physics. It is intended to give the student a better grasp of the scientific method and to afford practice in critical thinking. (3-2)

Phys Sci 102 (78102) Physical Science 4 Sem Hrs
Prerequisite: Physical Science 101. Continuation of Physical Science 101. (4-0)

Phys Sci 290-299 (78290-78299) Special Projects in Physical Science
(See page 57)

PHYSICS

Phys 101 (79101) Applied Physics 5 Sem Hrs
Prerequisite: 1 year high school algebra or math 107. Recommended: high school geometry or math 109. Designed to cover the same subjects as high school physics course with emphasis on mechanics, heat and fluids, as required for technical programs. (5-2)

Phys 111 (79111) General Physics 4 Sem Hrs
Prerequisites: High school physics, and high school algebra I and II. Trigonometry recommended. Designed to familiarize the student with basic physical principles. Deals with mechanics, heat and sound. (4-3)

Phys 112 (79112) General Physics 4 Sem Hrs
Prerequisites: Physics 111. Continuation of Physics 111. Covers magnetism, electricity, light, and modern physics. (4-3)

Phys 121 (79121) Chemical Physics 2 Sem Hrs
Prerequisite: Mathematics 111, 112, and 106. Principles of heat, sound, light and optics. (2-0)

Phys. 211 (79211) Physics 5 Sem Hrs
Prerequisites: High school physics or equivalent, and Mathematics 161 or its equivalent. For engineers and science majors. Mechanics, heat and sound. (5-3)

Phys 212 (79212) Physics 5 Sem Hrs
Prerequisites: Physics 211 and Mathematics 162. Continuation of Physics 211. Magnetism, electricity, light, and modern physics. (5-3)

Phys 215 (79215) Engineering Mechanics, Statics 3 Sem Hrs
Prerequisites: Physics 211 and Mathematics 162. Mathematics 162 may be taken as a parallel course. Covers forces, components, vectors, moments, couples, methods of sections, stress in frame structures, cables, friction, first moments, products of inertia, and centroids. (3-0)

Phys 290-299 (79290-79299) Special Projects in Physics
(See page 57)

SOCIAL SCIENCE DIVISION

Division Chairman—Richard E. Klein, Professor

Professor

Dr. Louis W. Doll
Dr. Robert M. Roman

Associate Professor

Harold D. Arman
Paul E. Carrico
Dr. Jean C. Cheger
Patricia Drury
Lawrence E. Glynn
Joseph M. Godard
Clarence W. Hackbarth
Calvin E. Hoerneman
David C. Howard
E. Paul Leek
John R. Wilhelm

Assistant Professor

John A. Dunn
Jon W. Gosser
Clarence Hooker
David R. Kennedy
Jeremy W. Kilar
Charles R. Meyers
Paul D. Moore
Thomas R. Ortenburger
Santiago Peregrino
Jerry B. Tingstad
Judith A. Wiley

Instructor

Sharon Lehrer

ECONOMICS

Econ 111 (81111) Essentials of Economics 3 Sem Hrs

Prerequisite: None. A survey of the operation of the American economy as a mixed economy and the principles of contemporary economic analysis that underlie its operation. (3-0)

Econ 114 (81114) Consumer Economics 3 Sem Hrs

Deals with everyday application of economic principles to personal decision-making and examines the role of the consumer in the market place and some of the pitfalls he encounters. (3-0)

Econ 221 (81221) Principles of Economics 4 Sem Hrs

Prerequisite: Sophomore standing or permission of instructor. The allocation problems of every society with emphasis on their solutions under the American capitalistic economy, preliminary analysis of the demand and supply activities of individuals, firms, groups, and governments; measuring national income and product, and explaining their fluctuations; monetary and banking institutions in relation to specialization and exchange, business cycles, and government fiscal and monetary policies. Not open to students with credit in Economics 111. (4-0)

Econ 222 (81222) Principles of Economics 4 Sem Hrs

Prerequisite: Economics 221. The commodity markets; prices as causes and effects of supply and demand; determinants of consumer buying and of the actions of firms as buyers and sellers; fac-

tor markets; wages, rent, and interest as special types of prices; the role of profits and profit expectations, growth and development problems; international trade and finance; alternative economic systems. Not open to students with credit in Economics 111. (4-0)

Econ 231 (81231) Industrial Relations 3 Sem Hrs

Prerequisite: Economics 111 or 221. Provides a study of the human factor in industry. Problems of wages, hours, unemployment, working conditions; federal and state laws which relate to labor and management relations; policies and practices of unions and management. (3-0)

Econ 232 (81232) Case Studies in Labor Relations 3 Sem Hrs

Prerequisite: Permission of instructor. Application of principles of industrial relations to collective bargaining case studies. Actual cases are discussed and evaluated in reference to current labor laws and personnel practices. (3-0)

Econ 265 (81265) Economics of Medical Care 3 Sem Hrs

This course is designed to familiarize the student with the basic problems that exist in the field of medical care. The student will be introduced to the basic economic tools useful in analyzing these problems. The demand and supply of health services and personnel, role of health insurance, and pricing and output decisions are analyzed. Various policy questions will be examined pro and con with alternatives discussed. (3-0)

Econ 280 (81280) Money and Banking 3 Sem Hrs

Prerequisite: Economics 111 or 221. The role of money and credit in the economic system; emphasizing the operation of the federal reserve system and private financial institution. (3-0)

Econ 290-299 (81290-81299) Special Projects in Economics

(See page 57)

HISTORY

Hist 111 (83111) A survey of Early Western Civilization 4 Sem Hrs

Prerequisite: None. Political, social, economic, and cultural history of Europe from Prehistoric times to the end of the Reformation. Particular attention given to characteristics of civilizations and their relevant contributions to the modern world. (4-0)

**Hist 112 (83112) A Survey of
Later Western Civilization**

4 Sem Hrs

Prerequisite: None. History 111 recommended. Political, social, economic, and cultural history of Europe from the 1600's to the present time. Particular attention is given to cultural and democratic movements and their influence on current history. (4-0)

Hist 113 (83113) History of Michigan

2 Sem Hrs

Prerequisite: None. History from the time of the first known human inhabitants through French and British domination, and finally American acquisition of Michigan leading to territorial status and statehood. Emphasis on Michigan history as a representative part of human culture. (2-0)

Hist 122 (83122)

Forces for Change in the Twentieth Century

3 Sem Hrs

This course is an introduction to the impact of ideas on the development of major twentieth century historical trends. It will consider nationalism, Communism, democracy, fascism, Third-World socialism, the New left, and modern anarchism as they have influenced the First and Second World Wars, the cold wars, and revolutions in Russia, China, the Near East, and Latin America. (3-0)

Hist 125 (83125) Women, Society and Change

3 Sem Hrs

This course reviews the history, social and economic role of women in Western society from past to present. It will examine attitudes toward women in ancient Hebrew and Greek society and their impact on modern ethics and behavior. The legal aspects of women's roles, the impact of urbanization and industrialization, the rise of Victorian attitudes, and the emergence of Women's Rights movements in the twentieth century will be explored. We will look at women at work, women in the family, in education, law and in collective action. (3-0)

Hist 126 (83126)

Women's Rights Movements in America

1 Sem Hr

"What do those women want, anyway?" This course will trace the history of American feminism from Lucretia Mott and Elizabeth Cady Stanton to Betty Friedan and Germain Greer. It will stress the basic theme of equality for women within the traditional democratic idealism and identify the major elements of resistance to feminism, both male and female. (1-0)

Hist 210 (83210) A History of Sub-Saharan Africa

3 Sem Hrs

Africa leads the way in pre-history with the independent development of man, the growth of cereal agriculture and the early appearance of the Iron Age Nok culture. Great civilizations flourished and fell. Islam, the slave trade, and the age of exploration made various impacts on Africa. Close on the heels of Europe's imperialistic "scramble" for Africa followed colonialism and ultimately black nation building. This course will concern itself primarily with a sur-

vey of African history prior to the white man and contemporary history (1860's to the present). (3-0)

**Hist 214 (83214) Black Man in America:
Pre Columbian Times to 1888**

3 Sem Hrs

Prerequisite: None. History 221 recommended. Traces the interaction among Europeans, Africans, and aboriginal Americans with emphasis on the resultant slave trade and systems of slavery in North, Central and South America. Also examines sources and results of discrimination other than slavery. Theories and practices of abolitionists until emancipation in Brazil, 1888 are also studied. (3-0)

**Hist 215 (83215) Black Man in the U.S.:
1888 to Present**

3 Sem Hrs

Prerequisite: None. History 222 recommended. History of the shift in Negro attitudes from slave mentality to greater consciousness of racial pride and human dignity. Also traces the causes and effects of shifts in colored population from rural South to urban North and West. The impact of neo-segregation and other discrimination, as well as the national and international effects of more extensive race consciousness, will be examined. (3-0)

Hist 221 (83221) History of the United States to 1865

3 Sem Hrs

Prerequisite: None. An introductory course in American history from its immediate European background to the close of the Civil War. Special emphasis is given the growth of institutions and ideas. The political, economic, and social experience of the young Republic, and their influences on contemporary America are also examined. (3-0)

**Hist 222 (83222) History of the
United States from 1865 to the Present**

3 Sem Hrs

Prerequisite: None. A survey of Modern America from the post Civil War period to the present with special emphasis on the industrial growth and agricultural protest. Experiments with imperialism, domestic reform, and world leadership and their influences on contemporary history are also studied. (3-0)

Hist 232 (83232) History of Russia

3 Sem Hrs

Prerequisite: History 111 or 112. History 112 especially recommended. A survey of the major lines of Russian political and cultural development from Kiev in the 900's to the present, with more emphasis on the 19th and 20th Centuries than on earlier eras. Student reports, on topics historical and cultural, constitute about 40 percent of course. (3-0)

Hist 244 (83244) History of Urban America

3 Sem Hrs

Prerequisite: An American History course or permission of instructor. A study of American cities from colonial times to the present. Several themes will be emphasized: European foundations of Urban America; Colonial solutions to the Urban challenge; and the

problems of planning an American city. Factors in demographic and physical growth, as well as the growth of mass transit, racial and ethnic composition; housing and urban violence will also be included. (3-0)

Hist 249 (83249) American Society:

A History of American Social Problems

3 Sem Hrs

This course approaches the social history of the American people through a study of selected societal problems that have historically confronted the American nation and are still commonly reflected within contemporary crises. The course will include studies of social and geographical mobility, poverty, race and ethnic rivalry, urbanization, violence and authority response, and feminist activism. (3-0)

Hist 261 (83261) The American Civil War and Reconstruction

3 Sem Hrs

Prerequisite: History 221. A study of the events, causes and effects of the American Civil War and the Reconstruction Era. Specifically, while the emphasis will be on military and political history, the economic, social and intellectual factors involved within a war and post-war society will likewise be analyzed. (3-0)

Hist 266 (83266) American Studies I

3 Sem Hrs

(Can also be taken as English 266.)

Prerequisite: An American history course. This is a team taught, interdisciplinary study of selected aspects of American life and culture conducted by staff of the History and English departments. Several topics such as the American Hero, and the Great Depression, as well as a student selected topic will be examined from the historical point of view. The same topics will be examined as they appear in literature so the student can see writers' creative responses to the historical realities of American life. (3-0)

Hist 277 (83277)

Violence and Social Conflict in America's Past

3 Sem Hrs

Prerequisite: History 221 or 222. This course intends to study the role, causes and evolution of violence and conflict in America from earliest Puritan times until the 1960's. It will include an examination of Nineteenth Century religious, labor, and racial violence. The impact of the frontier, organized crime, and the violent 60's will also be studied. (3-0)

Hist 290-299 (83290-83299) Special Projects in History

(See page 57)

LAW ENFORCEMENT

LE 101 (84101) Police Recruit Training

4 Sem Hrs

Prerequisite: None. Designed to give the student the basic training necessary to assume the duties of a patrolman. Topics included are constitutional law, criminal law, laws of arrest, search and seizure, investigative techniques, first aid, firearms, motor vehicle laws, defensive tactics, and patrol techniques. Class meets for a minimum of 142 hours in a three-week period.

LE 102 (84102) Command Officers Training

3 Sem Hrs

Deals in both the theory and practice of good business procedures as applied to police operations and to improve the caliber of command officers. To be also concerned with conditioning the attitudes of command officers and creating an awareness of the responsibilities of command positions within a police department. (3-0)

LE 110 (84110) Introduction to Law Enforcement

3 Sem Hrs

Prerequisite: None. Philosophical and historical backgrounds; agencies and processes; administrative and technical problems; and career orientation. (3-0)

LE 111 (84111)

Police Organization and Administration

3 Sem Hrs

Prerequisite: Law Enforcement 110. An analysis and study of the functional divisions of the modern police department. Functions to be studied will include management operations, coordination of activities, communications, recruiting, training, public relations, and a look at the future of law enforcement. (3-0)

LE 112 (84112) Police Patrol Procedures

3 Sem Hrs

Study of patrol as a basic police function, including both the theoretical and functional aspects. Responsibilities of, purposes, methods, types and means of police patrol. Examination of patrol strength layout, beats, technological advancements affecting the patrol officer. (3-0)

LE 180 (84180) Retail Security

2 Sem Hrs

Prerequisite: None. This course covers the organization and management of retail security for all types of retail outlets, large and small. Particular attention is given to retail security programs already functioning, the effectiveness and scope of these programs, and the changing problems in retail security. (2-0)

LE 184 (84184) Industrial Security I

3 Sem Hrs

Prerequisite: None. Theoretical approach to the role of security officers in business and industry. Plant and business protection. Legal responsibilities and authority of plant security officers. Problems of business, industrial espionage and petty thefts. Report writing. (3-0)

LE 185 (84185) Industrial Security II 3 Sem Hrs
Prerequisite: Law Enforcement 184. Practical approach to the role of security officers concerning fire prevention, safety programs, first-aid and internal security. (3-0)

LE 210 (84210) Introduction to Criminal Investigation 3 Sem Hrs
Introduction to criminal investigation procedures including theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence; methods used in police science laboratory; finger prints, ballistics, documents, serology, photography, and related forensic sciences. (3-0)

LE 220 (84220) Crime Laboratory Technique 3 Sem Hrs
An introductory course in scientific criminal investigation and criminalistics; included are specifics in the proper handling and transmittal of evidence to the crime laboratory, laboratory aids that are available, preliminary screening of certain kinds of physical evidence and a basic understanding of the probabilities related to examination of physical evidence. (3-2)

LE 250 (84250) Introduction to Juvenile Delinquency 3 Sem Hrs
Prerequisite: None. Juvenile delinquency theories, work of youth agencies, legislative involvements, and new developments in the prevention of juvenile crime. (3-0)

LE 270 (84270) Evidence and Criminal Procedure 3 Sem Hrs
Prerequisite: None. Deals with rules of evidence and particular import at the operational level in law enforcement and with criminal procedure in important areas such as arrest, force, and search and seizure. (3-0)

LE 271 (84271) Criminal Law 3 Sem Hrs
Prerequisite: None. Elements and proof in crime of frequent concern in law enforcement with reference to principal rules of criminal liability. Importance of criminal law at the enforcement level is considered from crime prevention to courtroom appearance. (3-0)

LE 290-299 (84290-84299) Special Projects in Law Enforcement
(See page 57)

POLITICAL SCIENCE

Pol Sci 103 (85103) Introduction to American Government 3 Sem Hrs
Prerequisite: None. (Not open to students with credit in Political Science 111.) Organization and functions of the political, electoral, legislative, administrative, and judicial processes of federal, state, and local governments. (This course satisfies the State requirements in political science.) (3-0)

Pol Sci 111 (85111) American Government and Politics 4 Sem Hrs
Prerequisite: None. (Not open to students with credit in Political Science 103). A study of the American political system, utilizing the techniques of political science. Particular emphasis is placed on the organization and functioning of the electoral, legislative, administrative, and judicial process of the national government. Comparisons are made between federal, state, and local governments. Recommended for pre-law or social science majors or minors. (This course satisfies the State requirements in political science.) (4-0)

Pol Sci 128 (85128) Introduction to Urban-Public Service Problems 4 Sem Hrs
Prerequisite: Political Science 103 or 111. Covers the services normally performed in major areas of specialization (e.g., Urban Professional Assistant, and Social/Health Services Assistant) and the organizational relationships of these specialties in an urban setting (4-0)

Pol Sci 129 (85129) Public Relations for Public Service Employees 3 Sem Hrs
Prerequisite: A basic general course in public service and community relations. Incorporates material from several social science disciplines and focuses on how public service personnel build good will, handle complaints, discharge follow-up responsibilities, etc. (3-0)

Pol Sci 212 (85212) State and Local Governments 3 Sem Hrs
Prerequisite: A course in political science or permission of the instructor. Development, structure, organization and problems of the state and local units of governments along with their relation to the federal government. (3-0)

Pol Sci 220 (85220) Minority Group Politics 3 Sem Hrs
Prerequisites: Political Science 103 or 111, or the permission of the instructor. An examination of the dynamics of minority group politics in the American political system. The nature, role, techniques, and objectives of ethnic groups will be analyzed, with special emphasis on the Afro-American and the Mexican-American. (3-0)

Pol Sci 221 (85221) Comparative Government 3 Sem Hrs
Prerequisite: A course in political science or history. The study of major European and selected non-western political systems. Emphasis is placed on the techniques of comparative analysis and concepts of modernization, political development and political culture. (3-0)

Pol Sci 222 (85222) The Middle East: Governments and Politics 3 Sem Hrs
A study of the contemporary political systems of the countries of the Middle East with emphasis on the problems of developing

nations, the internal conflicts within the region, and the role of the Middle East in the international community. (3-0)

Pol Sci 223 (85223) The Judicial Process 3 Sem Hrs
A study of state and federal court systems, including the selection and socialization of judges, the roles of trial, primary and secondary appellate courts in civil and criminal cases, lawyers and the organized bar, pressure groups, relations between state and federal courts, as well as the courts and the legislative and executive branches, access to courts, and judicial review. Emphasis will also be given to judicial policy making, including constitutional law and civil liberties. (3-0)

Pol Sci 225 (85225) International Relations 3 Sem Hrs
Prerequisite: A course in political science or history. Introduction to the study of international politics. Covers the nation-wide system, cold war politics, colonialism, and the problems of political stability. Also includes a survey of regional and international organizations. (3-0)

Pol Sci 227 (85227) American Political Parties 3 Sem Hrs
Prerequisite: A course in political science or United States history. History, structure, and functions of political parties in the United States; interaction of political parties, pressure groups, and public opinion. (3-0)

Pol Sci 228 (85228) Internship in Public Service 3 Sem Hrs
Prerequisite: Political Science 128. Upon completion of prerequisite, the student is assigned to available positions in governmental units for 20 hours per week for one semester. Students interested in taking the Federal Civil Service Exams will be given pre-exam training. Interns will meet each week to report on their job projects. (3-20)

Pol Sci 290-299 (85290-85299) Special Projects in Political Science (See page 57)

PSYCHOLOGY

Psy 101 (86101) Applied Psychology 3 Sem Hrs
An introductory course in basic principles of human relations that may be used in business and industry. Emphasis on understanding motivation and behavior in practical situations; help in developing an appreciation of our own behavior so that students may work more successfully with supervisors and with peers. (3-0)

Psy 211 (86211) General Psychology 4 Sem Hrs
Prerequisite: Twelve hours of academic credit. Scientific principles underlying experience and behavior. Designed to give an understanding of human behavior as affected by learning, motivation, intelligence, and personality. (4-0)

Psy 223 (86223) Child Psychology 3 Sem Hrs
Prerequisite: Psychology 211. Facts and generalization concerning growth of children from conception to adolescence; this course deals with physical, mental, social and emotional development. (3-0)

Psy 231 (86231) Psychology of Personality 3 Sem Hrs
Prerequisite: Psychology 211. Application of psychological principles to inter-personal behavior; study of factors in the development of constructive personal adjustment as influenced by human relations in home, school, and community. (3-0)

Psy 241 (86241) Abnormal Psychology 3 Sem Hrs
Prerequisite: Psychology 211. A course dealing with the psychodynamics of deviant behavior, covering the origin, symptoms, and treatment of pathological personality disorders; areas to be covered include the neuroses, psychoses (functional and organic), and character disorders as well as psychosomatic medicine. Case material will be emphasized. (3-0)

Psy 290-299 (86290-86299) Special Projects in Psychology
(See page 57)

SOCIOLOGY

Soc 101 (88101) Problems of the Community 2 Sem Hrs
Prerequisite: None. Selected topics in the economics, sociology and politics of urban life: population, race and poverty, education, housing, public safety, transportation, financing urban government, consolidation of governmental units. The basic intent of this course is to meet the needs of the labor community. (2-0)

Soc 121 (88121) Marriage and Family 3 Sem Hrs
Prerequisite: None. The study of family relationships in anticipation for, and participation in, marriage and family life. Consideration is given to historical, social, psychological, biological, and economic factors which contribute to the success or failure in family relationships. Credits are transferable as elective or minor credits, but, in accordance with individual college policies, may not apply toward a major in sociology. (3-0)

Soc 150 (88150) Community Organization and Analysis

3 Sem Hrs

A survey of the various public and private social agencies present in the community. Primary emphasis is upon the specific purposes of these agencies and their roles in community organization. This course is designed primarily for students enrolled in Public Service Curricula to acquaint them with the resources available for meeting community problems. (3-0)

Soc 211 (88211) Principles of Sociology

3 Sem Hrs

Prerequisite: None. An analysis of the structure and function of society and community through consideration of the basic generalizations and concepts utilized in sociology. (3-0)

Soc 212 (88212) Social Problems

3 Sem Hrs

Prerequisites: Sociology 211 or Psychology 211. An analysis of contemporary social problems within the theoretical framework of social change, value conflicts, and social deviation; an attempt to examine resulting political as well as personal disorganization. (3-0)

Soc 215 (88215)

Sociology of Minority Groups (Inter-group Relations)

3 Sem Hrs

Prerequisite: None. A sociological approach to study of prejudice and discrimination against minority groups, primarily in the United States. The emphasis is upon the analysis of both causes and solutions to the problems of prejudice and discrimination. (3-0)

Soc 231 (88231) Cultural Anthropology

3 Sem Hrs

Prerequisite: Sophomore standing or consent of instructor. An introduction to man in his cultural setting. Emphasis will be given to the study of primitive cultures and the implications for understanding our own culture. (3-0)

Soc 250 (88250) Introduction to Social Work

3 Sem Hrs

This course will provide the student with a basic introduction to the field of social work. It will include the learning of basic techniques utilized by individuals in the profession. Skills in the taking of client social history, diagnosis and the making of a treatment plan will be developed. Other basic casework procedures will be analyzed. In addition, the profession will be viewed and studied in various settings: social assistance, schools, corrections, mental health, etc. (3-0)

Soc 290-299 (88290-88299) Special Projects in Sociology

(See page 57)

LABOR RELATIONS

Lab Rel 101 (89101) Development of the Labor Movement and Labor Legislation

2 Sem Hrs

Prerequisite: None. Highlights of American labor history from the period of the Industrial Revolution to the present. Legislation beginning with the Warner Act and including the Taft-Hartley and Landrum-Griffin Acts. Class projects will include a study of labor history in the Saginaw Valley area. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 102 (89102) Labor and the Political System

2 Sem Hrs

Prerequisite: None. The historic development of labor political activities. The American political system and the role of parties and pressure groups. Current problems in labor's political activities. Left, right, and center in American politics. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 103 (89103) Economics of Income, Employment and Collective Bargaining

2 Sem Hrs

Prerequisite: None. Economic factors shaping the determination of wages and employment. The role of credit and debt. Standards for wage bargaining: cost-of-living, productivity, etc. The costs in fringe benefits. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 104 (89104) International Issues

2 Sem Hrs

Prerequisite: None. International labor organizations: ILO, the trade secretariates, the ICFTU and WFTU. Analysis of specific world problems where United States action can have an important effect on the life of working people. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 105 (89105) Collective Bargaining—Theory and Practice

2 Sem Hrs

Prerequisite: None. The development of the concept of joint decision making. The achievements of the collective bargaining system. The controversial issues in collective bargaining: union security; strikes; the scope of bargaining; internal regulations of unions. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 106 (89106) Seminar in Labor Problems

2 Sem Hrs

Prerequisite: None. In-depth analysis of current labor problems for advanced students completing the Certificate Program as Labor Relations Specialist. Participants will prepare oral and written reports on selected aspects of topics being studied. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 107 (89107) Social Psychology in Industry 2 Sem Hrs
Prerequisite: None. Relationship of the individual to his work group and the significance of group interaction, both formal and informal. The psychology and philosophy of management and union leadership. The basic intent of this course is to meet the needs of the labor community. (2-0)

Lab Rel 290-299 (89290-89299) Special Projects in Labor Relations
(See page 57)

TECHNICAL DIVISION

Division Chairman—Don E. Holzhei, Assistant Professor

Associate Professor

Thomas R. Freiwald
Wilbert C. Kleinsmith
Arthur M. Leinberger
Ralph M. McGivern
Richard E. Miller
Donald A. Miotto
William J. Streib
Robert N. Tinker

Assistant Professor

Darrell R. Berry
William S. Guild
John T. Hoffmann
Michael L. Holcombe
Craig A. McClain
Joseph R. Paquin

Lecturer

Ion E. Keefer

INDUSTRIAL SUPERVISION

IS 110 (90110) Industrial Supervision 3 Sem Hrs
(Required if Industrial Supervision 294 is not elected.) Prerequisite: None. This course is designed to give the student a general understanding of the following areas: Introduction to management; organization structures; product development; plant location and equipment; cost controls, material and production controls; personnel administration and management. (3-0)

IS 112 (90112) Production Planning and Control 4 Sem Hrs
Pre-production planning of the most economical methods, machines, operations, and materials for the manufacture of a product. The planning, scheduling, routing, and detailed procedure of production control. (4-0)

IS 118 (90118) Industrial Safety 2 Sem Hrs
Safety fundamentals as related to the economics of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, plant housekeeping, occupational diseases, first aid, safety organization, protective equipment, and the promotion of safe practices. (2-0)

IS 210 (90210) Cost Analysis 3 Sem Hrs
Prerequisite: None. Surveys fundamental mechanics of accounting, principles of account classification, financial and operating statements, and the generation of cost data according to the principles of engineering economy. Examines applications of cost accounting data and engineering economy cost data to specific management decision areas through selected case problems. (3-0)

IS 212 (90212)

Problem Analysis and Decision Making Analysis 3 Sem Hrs
Course description to be determined by participants.

IS 216 (90216) Plant Layout and Materials Handling 3 Sem Hrs
Analysis of product, process, machines and manpower. Layout planning, preparation, and reproduction. Storage analysis and survey of materials handling equipment. Also covered are facilities and maintenance planning and computer simulations. The student will select and complete a layout project pertinent to his own interest or work environment. (3-0)

IS 294 (90294) Seminar in Supervision 3 Sem Hrs
Course description to be determined by participants.

IS 290-299 (90290-90299) Special Projects in Industrial Supervision
(See page 57)

ARCHITECTURE

Arch Tech 101 (91101)

Materials and Methods of Architectural Construction

2 Sem Hrs

Prerequisite: None. A study of the basic building materials of the construction industry. Emphasis on handling and sketching the materials in typical assemblies and arrangements. (2-0)

Arch Tech 105 (91105) Architectural Drafting I

7 Sem Hrs

Prerequisite: None. Exercises in the fundamentals of Architectural Drafting including linework, lettering, symbols, orthographic and pictorial representation. Exercises in the development of freehand and instrument drawings of wall, roof, and floor assemblies of various types of construction. Introduction to construction drawings. (5-8)

Arch Tech 106 (91106) Architectural Drafting II

7 Sem Hrs

Prerequisite: Architectural Technology 105 or permission of the instructor. Development of construction drawings for a residence including architectural, electrical, and mechanical. Development of outline specifications. (5-8)

Arch Tech 111 (91111) Mechanical and Electrical Equipment for Buildings 4 Sem Hrs
Prerequisite: None. A study of the fundamentals and operating principles of mechanical and electrical equipment for buildings; including water systems, fire protection, plumbing systems, air conditioning systems, electrical systems, vertical transportation, sound and signal systems, and acoustics. (4-0)

Arch Tech 202 (91202) Specifications and Contracts 2 Sem Hrs
Prerequisite: None. A study of basic principles and legal implications of contracts, architectural office practice, specifications, and building codes. (2-0)

Arch Tech 203 (91203) Estimating 2 Sem Hrs
Prerequisite: Architectural Technology 101 or permission of the instructor. A study of the principles of calculating labor and material costs and of building construction. (2-0)

Arch Tech 205 (91205) Construction Documents I 7 Sem Hrs
Prerequisite: Arch Tech 106. Development of construction documents for a non-residential building. Introduction to concrete and steel construction with their various detailing requirements, symbols, and characteristics in terms of installation of mechanical and electrical systems. Development of outline specifications. (5-8)

Arch Tech 206 (91206) Construction Documents II 7 Sem Hrs
Prerequisites: Arch Tech 205. Interpretation of an architect's sketches into a meaningful preliminary which would indicate a buildable building in the envelope displayed. Development of construction documents based on the preliminary. Simulated office procedure. Development of outline specifications. (5-8)

Arch Tech 211 (91211) Elements of Structural Design 4 Sem Hrs
Prerequisite: Physics 101 or permission of the instructor. Review of basic mechanics. Analysis of live and dead loads on simple structural members. Use and limitations of wood, steel and concrete handbooks in structural design. Use of structural calculations in solving basic structural problems. (4-0)

Arch Tech 212 (91212) Theory and Practice of Structural Steel Design 4 Sem Hrs
Prerequisite: Architectural Technology 211 or permission of instructor. A detailed study and practice of methods used in structural steel design, drafting, and fabrication. Includes load and stress analysis, structural framing and connection design, and drafting techniques used in the development of shop drawings. This course is not required in any curriculum, nor may it be used as a substitute or as an elective in the Architectural Technology Curriculum. (3-2)

Arch Tech 221 (91221) Site Preparation 2 Sem Hrs
Prerequisite: None. A study of the fundamentals of site preparation including utilities, soil testing, landscaping, drives, and walkways. Elements of surveying including: use of equipment, measurement of distances, angles, elevations, contours, drainage, and other site work related to building design and location. Development of a site plan and details (2-0)

Arch Tech 231 (91231) Concrete Fundamentals 3 Sem Hrs
Prerequisite: None. A detailed study of the history, manufacture, characteristics and types of cement. Selection and design of concrete mixtures; sampling and testing plastic concrete; placing, finishing, and curing of concrete. Concreting during hot and cold weather. (3-0)

Arch Tech 290-299 (91290-91299) Special Projects in Architectural Technology
(See page 57)

AS 110 (92110) Minor Service Methods 1 Sem Hr
Prerequisite: None. (Taken concurrently with Service Skill Module.) This course serves as one of three courses in the Service Methods Module and must be taken in the First Automotive Cluster. The student will be involved with units of instruction necessary for background knowledge of the components and operating principles of the automobile. Emphasis is placed upon job orientation, safe work habits, and the development of accuracy and accepted methods in the performance of minor services. (1-0)

AS 111 (92111) Engine Service Methods 2 Sem Hrs
Prerequisite: None. (Taken concurrently with Service Skill Module.) This course serves as one of three courses in the Service Methods Module and must be taken in the First Automotive Cluster. The major emphasis of this course will be towards engine servicing methods which are necessary for engine repair and maintenance. Instructional units include the design, construction, and operation of modern gasoline engines. (2-0)

AS 112 (92112) Basic Electricity 2 Sem Hrs
Prerequisite: None. This course serves as one of three courses in the Service Methods Module and must be taken in the First Automotive Cluster. Course content is based on electrical fundamentals and their practical application. The student is involved in building a skill base allowing accurate testing of electrical and magnetic components of the automobile. (Class meets for five weeks.) (2-0)

AS 113 (92113) Minor Service Skills 2 Sem Hrs
Prerequisite: Automotive Service 110. This course serves as one of two courses in the Service Skill Module and must be taken in the First Automotive Cluster. Emphasis is placed on the develop-

ment of service skills a general repair technician is required to perform for successful employment in the automotive service industry. (0-6)

AS 114 (92114) Engine Service Skills

3 Sem Hrs

Prerequisite: Automotive Service 111. This course serves as one of two courses in the Service Skill Module and must be taken in the First Automotive Cluster. Primary objective is to provide the student with practical experience leading towards development of engine service skills which are mandatory for success as an engine repair technician. (0-9)

AS 115 (92115) Electrical Circuits Service

2 Sem Hrs

Prerequisite: Automotive Service 112. This course serves as one of two courses in the Experiential Service Module and must be taken in the First Automotive Cluster. The time period required for this course will be eight weeks of the fifteen week cluster. Emphasis is on the coding system interpretation of vacuum diagrams and body wiring diagrams and the operation and location of vacuum operated and electrical devices. Skill development will be concentrated on diagnosis of malfunctions within horn, lighting, accessory, signalling, and warning devices. (Class meets for eight weeks.) (3-2)

AS 116 (92116) Electrical Circuits Experiential Learning

1 Sem Hr

Prerequisite: Automotive Service 115. This course serves as one of two courses in the Experiential Service Module and must be taken in the First Automotive Cluster. The time period required for this course will be two weeks, 20 hours per week, of the 15-week cluster. Emphasis is on skill development derived through on the job experiences at a specific automotive service facility. The student will receive an off-campus work station assignment from the Coordinator and will service vacuum and electrical systems. (Forty work hours spread over two weeks.)

AS 120 (92120) Tune-up Service Methods

2 Sem Hrs

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of three courses in the Service Methods Module and must be taken in the Second Automotive Cluster. The student will be involved with units of instruction necessary for a thorough understanding of complete engine tune-up. Emphasis is placed upon conventional and transistor ignition systems, emission systems, the use of accurate and complete methods in the performance of engine tune-ups. (2-0)

AS 121 (92121) Electrical Systems Service Methods

2 Sem Hrs

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of three courses

in the Service Methods Module and must be taken in the Second Automotive Cluster. The student will be involved with units of instruction necessary for a thorough understanding of charging and cranking systems. Emphasis is placed upon methods of inspecting, diagnosing, and servicing: starters, relays, solenoids, alternators, regulators, and other system components completely and accurately. (2-0)

AS 122 (92122) Fuel Systems Service Methods

1 Sem Hr

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of three courses in the Service Methods Module and must be taken in the Second Automotive Cluster. The student will be involved with units of instruction on evaporative emission control, basic carburetor circuits, fuel pump function, and system diagnosis. Emphasis is placed upon inspection, testing, and servicing fuel system components completely and accurately. (1-0)

AS 123 (92123) Tune-up Service Skills

2 Sem Hrs

Prerequisite: First Automotive Cluster. This course serves as one of three courses in the Service Skill Module and must be taken in the Second Automotive Cluster. Emphasis is placed upon the development of service skills a tune-up technician is required to perform for successful employment. Skill and accuracy is developed on customer vehicles using complete and accurate tune-up and exhaust emission procedures. (0-6)

AS 124 (92124) Electrical Systems Service Skills

2 Sem Hrs

Prerequisite: First Automotive Cluster. This course serves as one of three courses in the Service Skill Module and must be taken in the Second Automotive Cluster. Emphasis is placed upon the development of service skills necessary for electrical system service in charging and starting systems. Skill is developed through use of tools and equipment as related to diagnosis and service. (0-6)

AS 125 (92125) Fuel Systems Service Skills

1 Sem Hr

Prerequisite: First Automotive Cluster. This course serves as one of three courses in the Service Skill Module and must be taken in the Second Automotive Cluster. Emphasis is placed upon the development of service skills necessary for fuel system service. Skill attainment is achieved through diagnosis and service of carburetion, fuel pump, and evaporative emission controls. (0-3)

AS 126 (92126) Air Conditioning Systems Service

2 Sem Hrs

Prerequisite: None. This course serves as one of two courses in the Experiential Service Module and must be taken in the Second Automotive Cluster. Service skills will be developed by the student through units of instruction involving nomenclature, theory of operation, diagnosing of systems, and methods of service. Major emphasis is placed on use of tools and equipment necessary to

determine malfunctions, service components, and place unit back in service. (Class meets for eight weeks.) (3-2)

AS 127(92127) Air Conditioning Experiential Learning 1 Sem Hr
Prerequisite: AS 126. This course serves as one of two courses in the Experiential Service Module and must be taken in the Second Automotive Cluster. The time period required for this course will be two weeks, 20 hours per week, of the 15-week cluster. Emphasis is on skill development derived thru on-the-job experiences at a specific automotive service facility. The student will receive an off-campus work station assignment from the Experiential Learning Coordinator and will service automotive air conditioning systems. (Forty work hours spread over two weeks.)

AS 230 (92230) Automatic Transmission Service Methods

2 Sem Hrs

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of two courses in the Service Methods Module and must be taken in the Third Automotive Cluster. The time period for this course will be seven and one-half weeks of the 15-week semester. The student will develop functional service skills for automatic transmissions through units of instruction involving nomenclature, fundamentals of operation, and diagnosis of malfunctions which will prepare the student to perform light service operations on clutches, standard transmissions, drive shafts, and differentials. (Class meets for 7½ weeks.) (3-0)

AS 231 (92231) Driveline Service Methods

1 Sem Hr

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of two courses in the Service Methods Module and must be taken in the Third Automotive Cluster. The time period required for this course will be seven and one-half weeks of the 15-week semester. Units of instruction emphasizing nomenclature, fundamentals of operation, and diagnosis of malfunctions will prepare the student to perform light service operations on clutches, standard transmissions, drive shafts, and differentials. (Class meets for 7½ weeks.) (2-0)

AS 232 (92232) Automatic Transmission Service Skills

2 Sem Hrs

Prerequisite: First Automotive Cluster. This course serves as one of two courses in the Service Skill Module and must be taken in the Third Automotive Cluster. The time period required for this course will be seven and one-half weeks of the 15-week semester. The primary objective is to provide the student with "hands-on" experience leading towards establishment of service skills mandatory for success as an automatic transmission repair technician. (Class meets for 7½ weeks.) (0-9)

AS 233 (92233) Driveline Service Skills

1 Sem Hr

Prerequisite: First Automotive Cluster. This course serves as one of two courses in the Service Skill Module and must be taken in the Third Automotive Cluster. The time period required for this course will be seven and one-half weeks of the 15-week semester. Primary objective is to develop service skills thru "hands-on" experience in light service operations which provide the student employment qualifications for further on-the-job development of skills in major service operations of clutches, standard transmissions, and differentials. (Class meets for 7½ weeks.) (0-6)

AS 240 (92240) Suspension System Service Methods

3 Sem Hrs

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of two courses in the Service Methods Module and must be taken in the Fourth Automotive Cluster. The student will develop functional service skills thru instructional units associated with the nomenclature and operating principles of steering and suspension systems. Wheel alignment and geometry, adjustment methods, and operation of alignment equipment form an integral portion of this course with emphasis placed on methods of adjustment and repair necessary for quality steering and alignment service. (3-0)

AS 241 (92241) Brake System Service Methods

2 Sem Hrs

Prerequisite: First Automotive Cluster. (Taken concurrently with Service Skill Module.) This course serves as one of two courses in the Service Methods Automotive Cluster. The student will develop functional skills by understanding the nomenclature and operating principles of the hydraulic and mechanical systems of shoe and disc brake assemblies. Units of instruction will emphasize repair procedures on brake system components and the development of accuracy and methodology necessary for quality brake system servicing. (2-0)

AS 242 (92242) Suspension System Service Skills

3 Sem Hrs

Prerequisite: First Automotive Cluster. This course serves as one of two courses in the Service Skill Module and must be taken in the Fourth Automotive Cluster. The student will develop skills necessary to properly service the hydraulic and mechanical systems of shoe and disc brake systems. Utilization of "hands-on" experience will provide the student with diagnostic skills, work habits, and merchandising capabilities necessary for success as a technician in the Automotive Service Industry. (0-6)

AS 243 (92243) Brake System Service Skills

2 Sem Hrs

Prerequisite: First Automotive Cluster. This course serves as one of two courses in the Service Skill Module and must be taken in the Fourth Cluster. The student will develop skills necessary to properly service the hydraulic and mechanical systems of shoe and disc brake systems. Utilization of "hands-on" experience will pro-

vide the student with diagnostic skills, work habits, and merchandising capabilities necessary for success as a technician in the Automotive Service Industry. (0-6)

AS 244 (92244) Customer Service Advising 3 Sem Hrs
Prerequisite: None. This course serves as one of two courses in the Experiential Service Module and must be taken in the Fourth Automotive Cluster. The time period required for this course will be ten weeks of the 15-week cluster. The student will be involved in the arrangement, managerial structure, and operational characteristics of the service floor of an automotive service facility. Major emphasis is placed on developing functional skills necessary for success as a professional service advisor through units of instruction oriented towards customer interviewing, service merchandising, warranty interpretation, and repair service scheduling. (Class meets for ten weeks.) (4-0)

AS 245 (92245) Customer Service Advising Experiential Learning 1 Sem Hr
Prerequisite: AS 244 Customer Service Advising. This course serves as one of two courses in the Experiential Service Module and must be taken in the Fourth Automotive Cluster. The time period required for this course will be two weeks, 20 hours per week, of the 15-week cluster. Emphasis is on skill development derived thru on the job experiences at a specific Automotive Service facility. The student will receive an off-campus work station assignment from the Experiential Learning Coordinator and will function as a customer service advisor. (Forty hours spread over two weeks.)

AS 290-299 (92290-92299) Special Projects in Automotive Service (See page 57)

DRAFTING

Dr 105 (93105) Elements of Industrial Drafting 3 Sem Hrs
Prerequisite: None. Elements of drafting for technicians. Lettering standards, use of instruments and equipment. Orthographic and multiview drafting and sketching, sections and conventions, axonometric and oblique drawing. (1-5)

Dr 106 (93106) Intermediate Industrial Drafting 3 Sem Hrs
Prerequisite: Drafting 105. Continuation of Drafting 105. Fasteners, dimensioning, layout, details, assembly, auxiliary projection and sketching. (1-5)

Dr 110 (93110) Machine Tool Calculations 4 Sem Hrs
Prerequisite: Mathematics 100 or equivalent. This course is designed around the practical application of fractions, decimals, and whole numbers as they relate to the drafting room or machine shop. Content includes measuring tools, weights and measures, geometric construction and measurement, percentages, ratios, speeds of pulleys and gears, speeds and feeds of machine tools, and the Table of Natural Functions and its relationship with practical application in the industrial setting. (4-0)

Dr 111 (93111) Engineering Drawing 5 Sem Hrs
Prerequisite: None. Introduction to engineering drawing, freehand sketching, the tools we work with, drafting equipment, the methods we use, freehand lettering, how to draw lines, types of lines, drafting geometry, projection of views, sectioning views, drafting conventions, dimensioning, lettering notes, bill of material, assembly drawing, detail drawings, pictorial drawings, how to check a drawing, types of drawings. (3-6)

Dr 112 (93112) Engineering Drawing 5 Sem Hrs
Prerequisite: Drafting 111. May be taken concurrently with Drafting 111. This course is a continuation of Drafting 111. (2-7)

Dr 113 (93113) Tool Design 5 Sem Hrs
Prerequisites: Drafting 112 and Mechanical Technology 111. Introduction to tool design, tool drawings, tools, fourteen steps to design a tool, the workpiece, locators, clamps, guide bushings, bushing plates, support jacks, actuating cams, controls, machine components, bases, mounting feet, fasteners, dimensions and notes, bill of material, the design process, types of tools. (3-6)

Dr 114 (93114) Tool Design 5 Sem Hrs
Prerequisites: Drafting 112 and Drafting 113. May be taken concurrently with Drafting 113. This course is a continuation of Drafting 113. (2-7)

Dr 115 (93115) Die Design 5 Sem Hrs
Prerequisites: Drafting 114, Mechanical Technology 111, and Drafting 110. Introduction to die design, presses and press accessories, the material strip, the blank, fourteen steps to design a die, scrap strips, die blocks, blanking punches, piercing punches, punch plates, pilots, gauges, finger stops, automatic stops, strippers, fasteners, die sets, dimensions and notes, bill of material, types of dies. (3-6)

Dr 116 (93116) Die Design 5 Sem Hrs
Prerequisites: Drafting 114 and Drafting 115. May be taken concurrently with Drafting 115. This course is a continuation of Drafting 115. (2-7)

Dr 120 (93120)**Beginning Industrial Blueprint Reading**

2 Sem Hrs

Course designed for machine operators, welders, or assemblers with little or no blueprint reading experience. Includes manipulation of basic fractions and decimals as applied to the reading of blueprints, reading measuring instruments, basic geometric figures, drafting and blueprint procedures, basic orthographic projection, auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title block, change block, list of materials, and notes. (2-0)

Dr 122 (93122)**Blueprint Reading for Welders and Fabricators**

2 Sem Hrs

Prerequisite: Drafting 120 or basic knowledge of blueprint reading. Course designed specifically for welders and fabricators working with welding drawings. A more in-depth treatment of basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Emphasis placed on welding symbols and welding drawings. (2-0)

Dr 155 (93155) Orthographic Projection

3 Sem Hrs

Prerequisite: None. Use of instruments, lettering, principles of orthographic projection, auxiliary views, sections, dimensioning, pictorial drawing and white printing. (1-5)

Dr 210 (93210) Creative Design Sketching

3 Sem Hrs

Prerequisite: Drafting 105, or Drafting 155 and/or equivalent. The course provides opportunity to develop reasonable skill in free-hand sketching, and greater awareness of its industrial application and problem solving potential. Function rather than beauty of the sketch is stressed. Topics covered: Review of the multiview and pictorial projection; observation and proportion; on-the-spot sketching; emphasis techniques; exploded assemblies; design and redesign of products and processes (problem and idea); group presentation methods. (1-4)

Dr 216 (93216) Electrical Drafting

2 Sem Hrs

Prerequisites: Drafting 105, accompanied by Electronic Technology 214. Standard electrical symbols, elementary wiring diagrams, and electrical codes are studied and applied. (0-4)

Dr 256 (93256) Descriptive Geometry

3 Sem Hrs

Prerequisites: Drafting 106, 111 and 112, or 155. Emphasis on space visualization and processes of solution. Problems comprise combinations of points, lines, planes, intersections, developments, warped surfaces, true angles, true size and shape, vectors, shades and shadow, and conics (1-5)

Dr 257 (93257) Advanced Industrial Drafting

3 Sem Hrs

Prerequisites: Drafting 256 and Mechanical Technology 205. Me-

chanical Technology 205 may be taken concurrently. Specific assigned problems requiring knowledge in the use of design layouts. Development of skills in the organization and presentation of complete sets of working drawings; details, assemblies, and related specifications. Apply knowledge of a variety of manufacturing and fabrication processes. Use of standards, manufacturers' and suppliers' catalogs and engineering handbooks. Introduction to drafting symbols, tabulation techniques, and engineering office procedure. (1-5)

Surv 205 (93205) Elements of Surveying

3 Sem Hrs

Prerequisite: Mathematics 114 and 116 or equivalent. Elements of surveying; use of equipment, measurement of distances, angles, and evaluation, analysis and use of verniers; traverses and topographic surveys and mapping. (1-4)

Dr 290-299 (93290-93299) Special Projects in Drafting

(See page 57)

ELECTRONICS**EIn Tech 101 (95101)****Industrial Electricity and Electronics**

3 Sem Hrs

Prerequisite: High School algebra or equivalent. A survey of the fundamentals of electricity and electronics. (2-2)

EIn Tech 111 (95111) Fundamentals of DC Circuits

4 Sem Hrs

Prerequisite: Mathematics 112 and 106 or equivalent. (May be taken concurrently.) Theory and applications of direct current electricity including resistance, basic circuit laws, magnetism, and direct current instrumentation. (3-2)

EIn Tech 112 (93112) Fundamentals of AC Circuits

3 Sem Hrs

Prerequisite: Electronic Technology 111, Mathematics 112 and 106 (Mathematics 114 and 116 may be taken concurrently.) Theory and applications of alternating current electricity including representation of AC wave, impedance, basic circuit computations, and alternating current instrumentation. (2-2)

EIn Tech 115 (95115) Electronic Devices

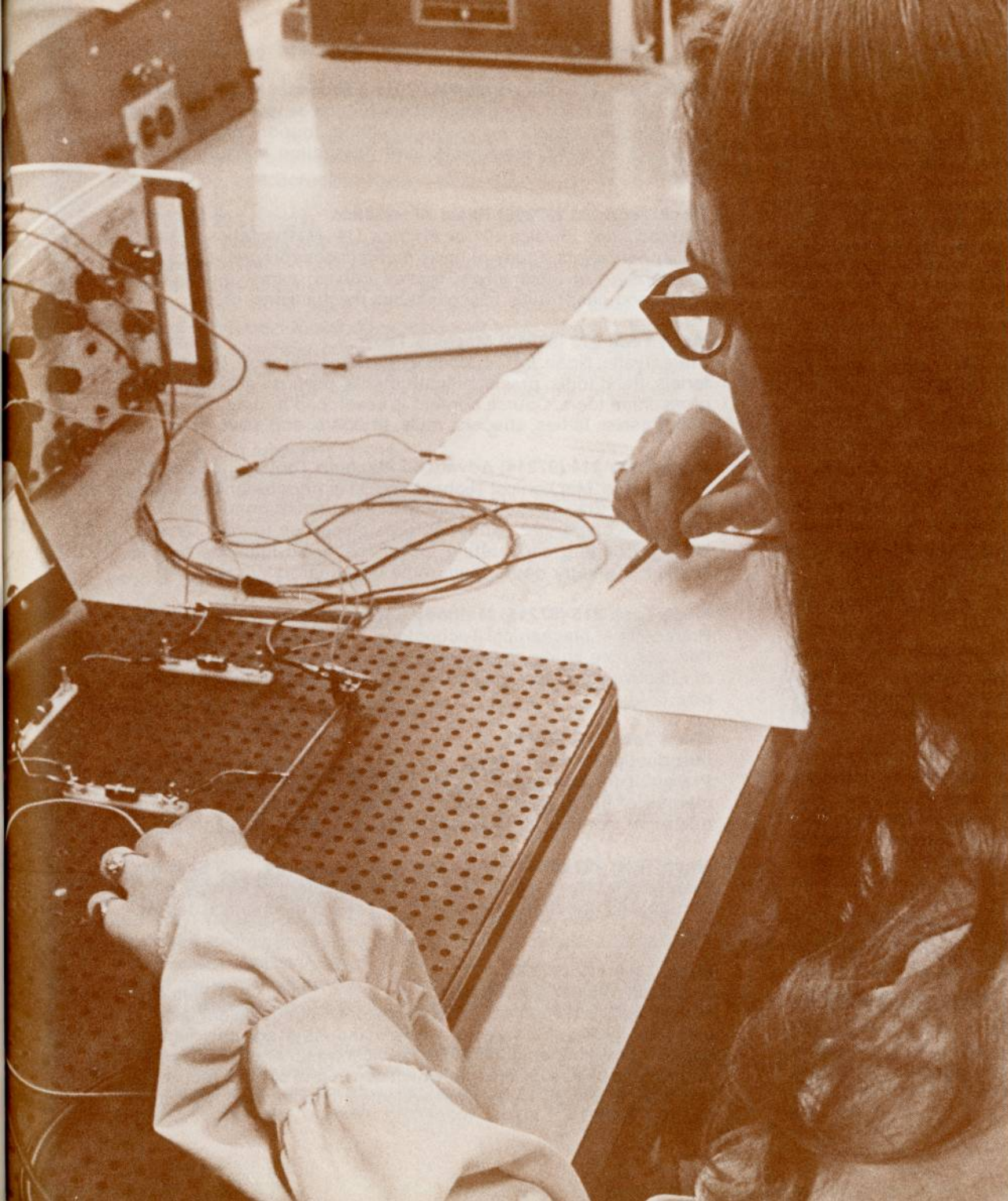
2 Sem Hrs

Prerequisite: Electronic Technology 111 or equivalent. (May be taken concurrently.) Study of transistors, integrated circuits, and vacuum tubes. Emphasis is placed on mathematical and graphical techniques used to describe their characteristics. (1-2)

EIn Tech 116 (95116)**Electronic Devices and Circuits**

2 Sem Hrs

Prerequisites: Electronic Technology 115, Electronic Technology 112 or equivalent. (Electronic Technology 112 may be taken concurrently.) Basic amplifiers and their characteristics. Both transistor and vacuum tube circuits are covered. (1-2)



Eln Tech 213 (95213) Solid State Devices 3 Sem Hrs
Prerequisites: Electronic Technology 112 and 116. Study of the theory and applications of transistors and other semi-conductors. The practical uses of these devices in industrial and communications circuits are emphasized. (2-2)

Eln Tech 214 (95214) Communication Circuits 4 Sem Hrs
Prerequisite: Electronic Technology 213. Elementary principles of operation of rectifiers, amplifiers of various types, modulation, demodulation and detection are studied. (3-2)

Eln Tech 215 (95215) Electronic Control and Automation 4 Sem Hrs
Prerequisites: Electronic Technology 241 and 213. Automatic control devices including regulating and automatic feed-back system are studied. Induction heating, resistance welding, process timing, and similar circuits are examined. (3-2)

Eln Tech 231 (95231) Electronic Fabrication 3 Sem Hrs
Prerequisite: Electronic Technology 216. Use of electrical hand tools, wiring, safety practice, techniques of chassis fabrication, performance testing and trouble shooting. (1-4)

Eln Tech 235 (95235) Electrical Circuits 3 Sem Hrs
Prerequisite: Mathematics 112 and 106 or equivalent. Basic direct and alternating current circuits and their applications in machine operation and control; electrical measuring instruments. (3-2)

Eln Tech 241 (95241) AC and DC Machines and Controls 2 Sem Hrs
Prerequisite: Electronic Technology 112. Basic study of AC and DC machines and their controls. (2-0)

Eln Tech 252 (95252) Basic Industrial Instrumentation 4 Sem Hrs
Prerequisite: Electronic Technology 116. (Electronic Technology 213 may be taken concurrently.) A study of components of applied instrumentation, including transducers, processing systems and recorders. Mechanical, electrical, hydraulic, pneumatic, acoustical, and photometric topics are covered. (3-2)

Eln Tech 290-299 (95290-95299) Special Projects in Electronic Technology
(See page 57)

MECHANICAL

Mech Tech 111 (97111) Manufacturing Processes 3 Sem Hrs
Prerequisite: None. Fundamental production processes including ore reduction, steel making, heat treating, foundry practice, hot and cold working, press work, and production machining processes. (3-0)

Mech Tech 205 (97205) Basic Kinematics 3 Sem Hrs
Prerequisites: Physics 101 or Physics 111, Mathematics 113 and 116 or equivalent. Study of basic motion concepts; velocities and acceleration in mechanism, motion curves; cams; gears; belt, chain, and gear trains, miscellaneous mechanisms. (2-2)

Mech Tech 213 (97213) Machine Tools 3 Sem Hrs
Prerequisite: None. Introduction to the industrial shop. Safety, materials, hand tools, precision instruments, purpose and operation of machine tools. Course content is developed around the use of drill presses, lathes, shapers, mills, grinders, and saws. (1-5)

Mech Tech 214 (97214) Advanced Machine Tools 3 Sem Hrs
Prerequisite: Mechanical Technology 213 or permission of instructor. This course concerns itself with a continuation of basic machine tool operations, with emphasis placed on threads, tapers, boring, grinding and cutting tools. The basic machine tool is studied in greater depth than in the introductory course. (1-5)

Mech Tech 215 (97215) Methods Engineering 3 Sem Hrs
Prerequisite: Mechanical Technology 111. Fundamentals of motion and time study, methods of motion analysis and principles of effective work flow; designing and evaluating improved methods. (3-0)

Mech Tech 220 (97220) Introduction to Fluid Power 3 Sem Hrs
Prerequisite: Mathematics 113 and 116 or equivalent. Fundamentals of fluids, fluid circuits and their applications in machine operation, control and measuring devices. (2-2)

Mech Tech 221 (97221) Materials and Metallurgy 3 Sem Hrs
Prerequisite: None. Structure, use and treatment of ferrous, non-ferrous, and non-metallic materials as used in mechanical design. (3-2)

Mech Tech 222 (97222) Pneumatic Power and Control 3 Sem Hrs
Prerequisite: Mechanical Technology 220 or equivalent experience. Study of compressed air power in industrial and commercial applications. Mathematical and graphical treatments in design of circuits. Emphasis on circuits which sense and control mechanical, fluid, electrical, or thermal systems. Includes fluid logic and fluidics. (2-2)

Mech Tech 223 (97223) Fluid Logic 2 Sem Hrs
Prerequisite: Familiarity with ANSI Symbols. A 10-week course for the engineer, designer, or machine repairman who needs a working knowledge of fluidics and moving-part-logic systems. Topics covered are fluidic devices, graphic symbols, logic and sensing functions, circuit applications in machine and process control and counting, and Boolean Algebra. (2-2)

Mech Tech 224 (97224) Fluid Power Circuits and Systems 3 Sem Hrs
Prerequisites: Mech Tech 222 or equivalent experience. Open-center and closed-center circuits. Techniques and selection criteria for design of pressure and flow control circuits. Logic and sequencing systems based on moving-part-logic controls, fluidic controls and electrical controls. Boolean Algebra. Closed-loop systems. Designed to meet needs of engineers, designers, hydraulic/pneumatic equipment salesmen, and machine repairmen. (2-2)

Mech Tech 250 (97250) Statics and Strength of Materials 3 Sem Hrs
Prerequisites: Physics 111 or Physics 101 and Mathematics 113 and 116 or equivalent. Study of forces acting on rigid bodies, including applications of these forces to practical design problems. Concepts of stress in tension, compression, torsion, and shear in various combinations are developed and utilized. (3-0)

Mech Tech 251 (97251) Mechanics 3 Sem Hrs
Prerequisites: Physics 111 or Physics 101 and Mathematics 113 and 116 or equivalent. Study of forces acting on rigid bodies of analytical means; equilibrium laws for various force systems; centroids, center of gravity; movements of inertia, introduction to elementary dynamics. (3-0)

Mech Tech 252 (97252) Strength of Materials 3 Sem Hrs
Prerequisite: Mechanical Technology 251. Fundamentals of stress and strain, torsion, shear, bending, and deflection of beams, combines stresses, riveted and welded joints. (2-2)

Mech Tech 256 (97256) Machine Design 3 Sem Hrs
Prerequisite: Mechanical Technology 251, 252 (may be taken concurrently). General problems of force and motion applied to simple machines; design stress and dynamic loading; power and power transmission; shafts in bending and torsion; keys and keyways; pulleys, belts and gears; couplings; bearings; clutches; cylinders, screws, fasteners; springs; fits, allowances, and tolerances. (2-2)

Mech Tech 261 (97261) Numerical Control 3 Sem Hrs
Prerequisite: None. A basic course in numerical control applied to machine tools. History and description of types of control systems and the capabilities of each. Elementary parts programming is

covered. The course is designed for students who have some knowledge of basic machine processes. Offered in evening only. (3-0)

Mech Tech 281 (97281) Quality Control 3 Sem Hrs
Prerequisite: Mathematics 113 and 116 or equivalent. Designed for individuals in industry who are interested in the basic philosophy of quality control and those interested in developing special skills in quality management. Included in the course are general concepts of data analysis and variation, basic probability concepts, quality control charting, machine and process capability studies, and acceptance sampling procedures. (3-0)

Mech Tech 282 (97282) Theory of Foundry Practices 3 Sem Hrs
Prerequisite: None. The course is designed to acquaint the student with foundry practices and the theoretical basis for them. Subjects covered include properties of liquids, pure metals and alloys, equilibrium and non-equilibrium solidification, gating and feeding of castings, cast iron metallurgy, molding and sand technology, refractory and melting practice, finishing operations, casting inspection, and casting design. Offered in evening only. (3-0)

Mech Tech 290-299 (97290-97299) Special Projects in Mechanical Technology
(See page 57)

RESIDENTIAL CONSTRUCTION

RC 101 (98101) Construction Print Interpretation 3 Sem Hrs
Prerequisite: None. Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. (3-0)

RC 102 (98102) Building Materials 4 Sem Hrs
Prerequisite: None. A study of the basic building materials used primarily for residential construction. (4-0)

RC 103 (98103) Framing Square 5 Sem Hrs
Prerequisite: None. A specialized course in carpentry mathematics and the use of the framing square. Instruction will include practical mathematics as it applies to a carpenter and practical application in the use of the framing square as in roof framing and stair framing. (5-0)

RC 104 (98104) Construction Laboratory I 2 Sem Hrs
Prerequisite: None. A course centered around the care and use of woodworking tools. Included is study of tool terminology, purpose and uses of various tools and the functional principles of woodworking hand tools, including those which are power or pneumatically driven. (1-3)

RC 105 (98105) Building Site Surveying 5 Sem Hrs
Prerequisite: Residential Construction 103. A course designed to introduce students to the tools and instruments used for surveying. Methods and procedures of developing a building layout are also included. (5-0)

RC 106 (98106) Concrete Slab Work 4 Sem Hrs
Prerequisite: Residential Construction 102. A study of the practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, side-walks, patios, etc. (4-0)

RC 107 (98107) Footings and Foundations 5 Sem Hrs
Prerequisite: Residential Construction 101, 102, and 103. This course offers instruction in layout principles and construction methods of form buildings, trade, terminology, characteristics of concrete, and techniques of mixing and placing concrete. (4-3)

RC 201 (98201) Rough Framing and Outside Finishing 4 Sem Hrs
Prerequisite: Residential Construction 103. Instruction is given in the construction of techniques used in all phases of framing and exterior finishing. (3-3)

RC 202 (98202) Building Materials Estimation 3 Sem Hrs
Prerequisites: Residential Construction 102 and 103. A course designed to introduce methods and procedures commonly used in determining the costs of construction materials. (3-0)

RC 203 (98203) Construction Laboratory II 4 Sem Hrs
Prerequisites: Residential Construction 103 and 104. A course designed to allow time for practical application of the various construction procedures that are typically encountered on the job. Problem solving is a feature of this course. (3-3)

RC 204 (98204) Inside Finishing and Hardware 4 Sem Hrs
Prerequisites: Residential Construction 103 and 104. Instruction includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. (3-3)

RC 205 (98205) Cabinet Making and Millwork 4 Sem Hrs
Prerequisites: Residential Construction 201, 202, and 203. A study is made of the construction of, the placement of, and installation procedures of cabinets used in residential buildings. (3-3)

RC 206 (98206) Electrical-Mechanical-Plumbing Equipment 4 Sem Hrs
Prerequisites: Residential Construction 201, 202, and 203. A course designed to study the involvements of equipment installation as they pertain to construction and carpentry. (4-0)

RC 290-299 (98290-98299) Special Projects in Residential Construction
(See page 57)

COMMUNITY SERVICES

Introduction. Community services have existed at Delta College since 1961. A specific direction was determined by the college Board of Trustees when the Office of Community Affairs was established in 1967. The activities described reflect the intent of Delta College to become a relevant part of the lives of men, women, and children in the counties of Bay, Midland, and Saginaw.

Community Services include educational, cultural, recreational, support and research programs. Although these programs and services are frequently considered to be beyond academic classes and student activities, the fact that both students and faculty actively participate is an indication of our commitment to social relevancy.

Present Community Services

- Community Education Programs
- Women's Education Programs
- Conference Development
- Advisory Committees
- Cultural Activities
- Public Television (WUCM-TV)
- Career Training Programs
- College Relations Services
- Student Volunteer Program
- Research and Development Services
- Speakers Bureau
- College Tours
- Travel Programs
- Community Research
- In-Service Training
- Institutes, Seminars, Workshops
- General Consulting
- Federally Financed Programs

The Community Services Team

- Office of Community Affairs Karl F. DuBois, Dean
- Community Education ... Ronald J. Crossland, Associate Dean
- Counselor Steve Fournier
- Business William J. Maher, Coordinator
- Health Rebecca J. Wieland, Coordinator
- Home Economics, Family Life, and
 - Consumer Education Barbara L. Hill, Coordinator
 - Liberal Arts John E. Briggs, Coordinator
 - Vocational Technical Staff
- Women's Education Program Staff
- Conference Development John E. Briggs, Director
- Research and Development Leslie Myles, Director
- College Relations John H. Krafft, Director
- Planetarium Programs Robert Hilbert, Director
- WUCM-TV Channel 19 Television ... William J. Ballard, Director
- Vocational and Adult Education Lynn Heatley, Consultant

Federally Financed Programs

- Career Preparation Institute John Pugh, Director
- Family Living Resource Center Juanita Witherspoon, Coordinator
- Saginaw Inmate Rehabilitation
 - Project Cornelius Johnson, Director

COMMUNITY EDUCATION PROGRAMS

Delta College Community Education serves the needs of the community which are not met by two year degrees or academic certificate programs.

Community Education includes programs for self-development, individual groups, community development and goals of organizations and groups.

Community Education opportunities are primarily designed for adults and offer learning experiences more conducive to adult learning than conventional methods.

The five developmental areas of Community Education are:

1. Business
2. Health
3. Liberal Arts
4. Vocational Technical-Industrial
5. Vocational Technical-Home Economics and Family Life

Self Development describes the activities designed to change and improve the lives of individual participants through planned educational and counseling experiences.

Community Development describes the activities which focus upon cooperative efforts with community organizations, associations and agencies to improve the social, physical, economic, and political environment of the community, such as housing, transportation, air pollution, human relations, and public safety.

Contract Programs describes programs planned for and with individual business and industrial firms (see detailed descriptions on subsequent pages).

DISCIPLINE COORDINATORS

Business Programs Coordinator

William J. Maher, A72

To investigate, develop, promote, implement, manage and evaluate business oriented educational programs to give persons the opportunity to acquire or improve skills and knowledge by using internal and external resources.

Typical courses would include the following areas:

BUSINESS

Accounting for Non-Accountants
Applied Accounting
Bookkeeping I
Finance Your Home
Securities and Investments
Advanced Securities Training
Mutual Funds
Investment Strategy
Stock Market Strategy
Retirement Planning
Income Tax—Individual
Beginning Income Tax
Advanced Income Tax
Wills & Estate Planning
Law and the Layman
International Money Crisis
AIB Bank Investment
AIB Law and Banking
AIB Effective English
AIB Home Mortgage Lending
AIB Money and Banking
AIB Principles of Bank Operations
AIB Seminars for Bank Secretaries
AIB Trust Department
AIB Data Processing
AIB Effective Speaking—Bankers
AIB Accounting 1
AIB Accounting 2
AIB Bank Business Administration
AIB Bank Public Relations
AIB Economics
AIB Analyzing Financial Statements
AIB Credit Card
AIB Psychology
AIB Installment Loan
Problems in Bank Management
Credit Administration
Introduction to Savings & Loan
Teller Operations
Human Behavior
Savings Accounts
Real Estate Principles
Real Estate Law I
Real Estate Law II
Certified Life Underwriters (CLU)
 Parts 1 through 10
Insurance Institute of America (IIA)
Life Underwriters Training Council (LUTC)
Chartered Property & Casualty Underwriters
Effective Supervisory Management
Effective Supervision

Advanced Effective Supervision
Effective Business Management
Human Elements in Management
Management Seminar
Retail Management
Office Management
Basic Communication
Introduction to Property Appraisal
Real Estate Appraisal Theory
Real Estate Appraisal Theory 2
Advanced Real Estate
Real Estate Investment
Fundamentals of Real Estate
Real Estate Business Organizations
Real Estate Principles
Basic Legal Secretary
Corporation Legal Secretary
Litigation and Trial
Legal Secretary-Domestic Relations
Legal Secretary-Creditors Rights
Legal Secretary-Wills and Estates
Legal Secretary-Legal Research
Legal Secretary-Relations
Legal Secretary-Criminal Procedures
Certified Professional Secretary (CPS)
CPS Economics of Management
CPS Environment Relationships
CPS Financial Analysis and the Mathematics of Business
CPS Communication and Decision Making
CPS Business and Public Policy
CPS Office Procedures
ABC Shorthand
ABC Shorthand Speedbuilding
Business Letters
Dictation for Administrators
Refresher Typing
Shorthand Speedbuilding
Refresher Gregg Shorthand
Oral Communication
Technical Report Writing
Beginning Typing
Introduction to Retailing
Introductory Office Procedures
Business Math
Business Law
Conducting Business Meetings
Employment Search
Psychology for the Supervisor
Purchasing
Advertising
Inflation—Gold & Silver
Advanced Psychology for the Supervisor

Allied Health Program Coordinator

Rebecca Wieland
Office A-75

To plan, develop and implement courses and programs in the allied health field. Emphasis is placed on inservice and upgrading programs and on new and emerging health occupations.

MEDICAL ASSISTANT COURSES

Delta College, in cooperation with the Tri-County Chapter of the American Medical Assistants Association, sponsors a series of certificate courses for Medical Assistants. The courses will assist the Medical Assistant to upgrade current skills and to prepare for the Certified Medical Assistants Examination.

Medical Office Skills I. Fundamental principles of human relations, personal evaluation, and the art of being a medical assistant. The unique characteristics of the medical office, the importance of oral communication and reception techniques will be explored.

Medical Assistant Terminology, Anatomy and Physiology. A course designed to develop a knowledge of medical terminology, anatomy, and physiology. The student will become thoroughly acquainted with the spelling and meaning of commonly used prefixes, suffixes, root words, and their combining forms. The structure and function of the human body and common diseases and surgical procedures in relation to the various body systems will also be covered.

Medical Assistant Law & Economics. A medical assistant should know how the law affects him. Topics included in this course are: medical practice licensing, the legal relationship of the physician and patient, professional liability, malpractice, liability insurance, legislation, and the physician as a witness.

Medical Assistant Office Finances (Office Skills II). Instruction will be given in principles and practices of banking services and checking accounts, the Federal Income Tax, and payroll taxes. Also included will be credit and collections, obtaining credit information from the patient, the third party liability, types of health insurance, and insurance payment plans. Billing and collection procedures also will be presented.

Medical Assistant Administrative (Office Skills III). Class includes filing, mailing, correspondence, reports, and records. Also selection and care of office equipment and supplies, telephone-telegraph services, assisting with meeting and travel arrangements and general office administration.

Medical Assistant Examination Room Techniques. A knowledge of these techniques is fundamental to good performance of the medical assistant. Also, the ability to understand the health problems of the patient, the physician's diagnosis and treatment, and the accuracy of records will further the relationship between the patient and the medical office. Medical Terminology knowledge helpful.

Medical Assistant Laboratory Orientation. Practical work with blood collection, use of the microscope, urinalysis, hemoglobins. Lecture work on basic laboratory tests, laboratory procedures and recording procedures. Medical Terminology knowledge helpful.

Medical Assistant Insurance Forms. This course will cover the forms, records, and reimbursement forms of major insurance programs which are prevalent in this area. Includes: groups, personal, workmen's compensation and governmental medical care programs.

EMERGENCY MEDICAL TECHNICIAN PROGRAM

This state approved course will cover all techniques in emergency medical care presently considered within the responsibilities of the Emergency Medical Technician recommended by the American Academy of Orthopedic Surgeons. Completion of the course should enable the student to successfully complete the requirements for a certificate as an Emergency Medical Technician (EMT). Applicants having standard first aid training and currently employed in an emergency service capacity will be given first priority. Additional information and necessary applications for enrollment may be obtained.

SUBSTANCE ABUSE COUNSELOR COURSES

These courses are designed for persons working with substance abusers in treatment centers and crisis centers, or for persons who expect to work in therapeutic centers. The focus is on the physical, mental, emotional, and social involvements, on the total person, on the dynamics of therapy, and on research and actual field study. Additional information and necessary applications for enrollment are available.

Introduction to Substance Abuse
(Prerequisite for the following courses)

Physiological Aspects of Substance Abuse
Psychological Implications of Substance Abuse
Field Training in Substance Abuse
Community Referral: Legal Aspects, Interviewing & History Taking
First Aid in Substance Abuse

Prerequisite for the following courses are: Introduction to Substance Abuse, Physiological Aspects of Substance Abuse, Psy-

chological Implications of Substance Abuse, Field Training in Substance Abuse, Community Referral, and First Aid in Substance Abuse.

Dynamics of Individual & Group Psychotherapy
Behavioral Approach to Substance Abuse
Independent Study: Special Studies & Research

All other Substance Abuse courses are prerequisites for the following course:

Total Treatment Approach to Substance Abuse

WARD CLERK TRAINING

The Ward Clerk Courses are designed to prepare student as Ward Clerk in a health care facility. A working knowledge of the English language, basic math, and a previous course in medical terminology is recommended to assist the student to successfully meet course objectives.

Ward Clerk Training (Part I). Course content provides an introduction to the duties of a ward clerk. This course covers using telephone and intercom; relationships with patients and visitors; handling routine records and reports; charting responsibilities; admission, transfer and discharge of patients, working with service departments; and transcribing orders for medication and treatment. Length of course usually is 5 weeks, 2 sessions per week.

Ward Clerk Training (Part II). The student must have had Ward Clerk Training I. This course is designed to provide clinical experience in ward clerk duties in local health care facilities. Class sessions will be held in local hospitals. Hospital layout, forms, and actual working situations are emphasized. Length of course usually is 5 weeks, 2 sessions per week.

OPERATING ROOM TECHNICIAN TRAINING

Operating Room Technician—Certification. A course designed to assist the clinically experienced O.R. Technician in taking the Certification Examination. The course will cover theoretical instruction in:

- Anatomy and Physiology-Microbiology
- Sterilization and Disinfection
- Anesthesia
- Aseptic Technique
- Instruments, Sutures, Needles
- Surgical Procedures
- Emergency Room Care
- Pre-Op and Post-Op Care
- Duties and Responsibilities

The general objective is to provide the necessary theoretical instruction in the basic sciences with an emphasis on principles of surgical nursing.

Basic Operating Room Technician Training. A series of courses designed to train students as operating room technicians, consisting of both theory classes and clinical experience in local facilities. The courses are designed to prepare students to be employed as O.R.T.'s and to take the O.R.T. Certification Examination. Areas covered are: Anatomy & Physiology, orientation, patient care, O.R. Techniques, emergency room care, and surgical procedures.

Introduction to Anatomy, Physiology, and Microbiology. Presents basic anatomy and an introduction to physiology and microbiology in a lecture-demonstration class format for students with a limited background in the basic sciences. Designed for those entering the allied health field, especially for future Operating Room Technicians (a required basic), Emergency Medical Technicians, Nursing Assistants (Aides), Medical Assistants.

DENTAL ASSISTANTS

These courses for certification renewal, which are approved by the Board of ADAA and compiled by the ADAA Education Committee, are designed to improve the skills of the dental assistant. These are worth continuing education credits and open to all employed dental assistants.

Dental Terminology

Dental Assistants: Office Management and Letter Writing

Dental Assistants: Chairside Assisting and Alginate Impressions

NURSING

R.N. Refresher. A course for Nurses registered in the State of Michigan desiring to return to practice and intending to be employed after the course. The course is designed to update and upgrade nursing skills, covering a review of basics, Medical-Surgical nursing skills, Maternal-Child Health, Psychiatric and Team Nursing. Local hospitals are used for clinical experience.

Perspectives in Nursing. A review and discussion of nursing theory content and the critical points in Obstetric, Psychiatric, Pediatric, Medical and Surgical Nursing.

Nursing Assistant Training. This course is designed to prepare students for employment as Nursing Assistants (Aides) in a health care facility. Course content includes both theory and clinical experience in basic patient care procedures and skills. Necessary information and applications for enrollment may be obtained.

Psychology of Career Decisions. Designed for individuals wanting to explore careers. Includes a needs analysis, vocational exploration group experience, and individual exercises.

GENERAL HEALTH COURSES

Introduction to Alcoholism Workshop
EEG Technician Review
Advanced EEG Technician Review
Respiratory Therapy
Preparation for Childbirth
Television Classes for R.N. Inservice

LIBERAL ARTS PROGRAM COORDINATOR

John Briggs, Office A-68

Responsible for the development, implementation and coordination of non-credit and service credit courses in the general education area with emphasis upon the individual's personal growth, interests, and self-improvement. Programming for groups is available. Program Areas Include:

- Arts
- Non-Traditional Studies
- Personal Development Program
- Interest Development Program
- Human Relations Institute Offerings
- Music and Performing Arts
- Recreational and Healthful Activities
- Contemporary World Studies

LIBERAL ARTS

Arts

Modern Art Appreciation
Basic Drawing
Basic Drawing II
Cartooning
Painting with Oils & Acrylics I
Painting with Oils & Acrylics II
Life Drawing
Multi-Media Art
Watercolor
Art for the Family
Printmaking I
Printmaking II
Picture Framing & Matting
Raku Workshop
Ceramics Workshop
Pottery Workshop

Introduction to Pottery
Weaving
Sculpture

Non-Traditional Studies

Beginning Astrology
Advanced Astrology
Occult Metaphysics
Witchcraft

Personal Development Programs

G.E.D. Preparation
Adult Driver Education
Wine Tasting I
Wine Tasting II
Conversational French
Conversational German
Conversational Spanish
Speed Reading
Modern Math for Parents
Practical Mathematics
Metric System
Bible-Old Testament
Consumer Auto Service
Stop Smoking
Sign Language
English for the Foreign Born
Citizenship Preparation
Consumerism for T.V. Viewers
Defensive Driving

Interest Development Programs

Poodle Grooming
All-Breed Grooming
Puppy Obedience
Dog Obedience
Advanced Dog Obedience
Handling your Dog in the Show Ring
Basic Tracking
Horsemanship I
Horsemanship II
Taxidermy
Wildflowers and Habitat Ecology
Lapidary
Calligraphy I
Calligraphy II
Amateur Winemaking
Creations in Leather
Graphoanalysis
Marketable Manuscripts
Photography I

Photography II
Photography III
Photography IV
Creative Photography
Creative Darkroom
Film Appreciation
Beginning Chess
Beginning Bridge

Human Relations Institute

Human Potential
Non-Verbal Communication
Value Clarification
Personal Psychology
Introduction to Transactional Analysis
Introduction to Sensitivity Training
Personal Growth for Women
Creative Listening
Group Interaction
Personal Development and Enhancement
Transactional Analysis Revisited
Elimination of Self-Defeating Behaviors
 Workshop
Professional Workshop Elimination of
 Self-Defeating Behaviors

Music and Performing Arts

Programs are offered in cooperation with Musical Arts Incorporated of Mid-Michigan and the Michigan Music Teachers Association

Guitar I
Guitar II
Chord Style Piano
Beginning Pop Organ
Beginning Banjo
Beginning Strings
Contemporary Jazz
Introduction to Theater
Preparation Theory-Musicianship
School of Ballet and Modern Dance
Conservatory of Music

Recreational and Healthful Activities

Physical Condition
Golf
Tennis
Archery
Skiing I
Skiing II
Cross-Country Skiing
Volleyball

Skin and Scuba Diving
Sport Parachuting
Hatha Yoga
Self Defense
Karate
Fly Fishing
Bow Hunting
Social Dancing I & II
Modern Square Dancing
Middle Eastern Dancing
Advanced Middle Eastern Dancing
Interpretive Dance
Officiating Sports
Coaching Basketball

Contemporary World Studies

Political Action
Political Campaigns
Middle Eastern History
East-West Relations
European Travel Seminars
Domestic Travel Seminars
Michigan People and Myths
Women's Rights Movement
Environmental Concerns

Vocational-Technical Program Coordinator

Dr. Ronald J. Crossland, Office A-76

Responsible for the development, implementation and coordination of courses or programs for individuals and industry in the community service area having specific vocational-technical training needs. Consults with local professional organizations, including trade unions, engineering societies and other technical related societies in an effort to provide timely and pertinent educational opportunities for the area.

Typical courses and programs include:

Industrial Pre-Apprentice
Residential Construction
In-Service Courses for Auto Service Personnel
Electricity/Electronics/Commercial Radio
Stationary Boiler Fireman
Air Conditioning/Refrigeration/Heating
Ornamental Plant Identification
Landscape Design
Advanced Landscape Design
Landscape Maintenance
Ornamental Horticulture

Practical Equine Physiology
 Plan and Build Your Own Home
 Construction Safety
 Air Conditioning/Refrigeration
 Air Conditioning/Refrigeration—Domestic
 Air Conditioning/Refrigeration—Commercial
 Residential Electricity
 Residential Plumbing Service
 Plumbing Theory 1
 Plumbing Theory 2
 Plumbing Theory 3
 Plumbing Theory 4
 Maintenance of Public and Private Buildings
 Oil Burner Seminar
 Building Cost Estimating
 Industrial Construction
 Basic Woodworking
 Cabinetmaking I
 Basic Machine Woodworking
 Operational Systems and Telecommunication
 Electricity I
 Major Electricity Appliance Service
 Electronics I
 Electronics II
 Electronic Test Equipment
 Amateur Radio License (Novice)
 Amateur Radio II (General)
 Fundamentals of Transistors
 1st Class Radio License
 2nd Class Radio License
 Audio Electronics
 TV Repair
 Engineer Refresher A
 Engineer Refresher B
 Machine Shop Operations
 Industrial Pre-Apprentice
 Mechanical Power Transmission
 Introductory Pneumatics
 Blueprint Reading 1
 Blueprint Reading 2
 Stationary Boiler Fireman I
 Stationary Boiler Fireman II
 Stationary Boiler Fireman III
 Machine Shop Math
 Industrial Quality Control
 Industrial Pre-Supervision
 Industrial Safety
 Industrial Fabrication
 Operation & Maintenance of Four Wheel Drive
 Recreational Vehicles Maintenance
 Diesel Mechanics

Auto Electricity
 Small Engine-2 Cycle
 Introduction to Four Cycle Engines
 Auto Emission Control
 Oscilloscope-Auto Ignition
 Small Engines-Outboard
 Advanced Small Engine Mechanics
 Engine Tune-up
 Brake System Repair
 Fundamentals of Carburetors
 Cooling System
 Auto Transmission-Basic
 Auto Transmission-Turbo
 Snowmobile Repair
 Advanced Snowmobile Repair
 Graphic Arts Paste-Up
 Career Exploration Workshop
 Law Enforcement In-Service Training
 Basic Police Training
 Security Officers Training I
 Cycle Safety School
 Photo Retouching 1
 Photo Retouching 2
 Advanced Photo Retouching

The following courses comprise a certificate program in Residential Construction offered by Delta's Community Education Division. Though they are primarily designed to serve the Home Building Industry through the education of its members, the courses also provide fundamental skills and knowledge for those interested in entering the residential construction field.

BLDG (C84111) Home Building I 2 Svc. Cr.
 Prerequisite: None. Designed to give the student knowledge in the areas of blueprint reading, carpentry math, use of carpentry tools, the framing square, and the building materials.

BLDG (C84112) Home Building II 2 Svc. Cr.
 Prerequisite: None. Designed to give the student knowledge in the areas of building material estimating, building codes and ordinances, mechanical equipment, and building insulation.

BLDG (C84113) Home Building III 2 Svc. Cr.
 Prerequisite: None but prior construction experience helpful. Designed to further the carpenter's knowledge and skills in the areas of basement construction, sub-floor framing, building construction layout, roof framing, and outside finishing.

BLDG (C84114) Home Building IV

2 Svc. Cr.

Prerequisite: None but prior construction experience helpful.
Designed to further the students knowledge and skills in home interior finish such as: Trim work, door hanging, closet trim, cabinet work, finish hardware, and interior wood finish.

Home Economics, Family Life, and Consumer Educational Program Coordinator

Barbara L. Hill, Office A-70

Responsible for the development, implementation and coordination of service credit courses, designed for personal, home, and family life, as well as, occupational preparation in the areas of:

- Clothing and Design
- Home Accessories
- Consumer Education
- Home Furnishing and Interior Decorating
- Child Development
- Family Living

Child Development

- Child Development I: Introduction to Child Care
- Child Development II: Day Care Assistant Training
- Child Development III: Parent-Child: Experience With Mother
- Child Development IV: Foods
- Child Development V: Clothing
- Child Development VI: Experience with Rhythm and Music
- Child Development VII: Muscle Development
- Child Development VIII: You and Your Special Child
- Child Development IX: Maternal and Infant Development

Clothing and Design

- Clothing Construction I
- Clothing Construction II
- Clothing Construction III
- Clothing Construction IV: Elsé Pants for the Family
- Couturier Clothing Construction
- Clothing Construction on Knits
- Clothing Construction for Accessories
- Clothing Construction on Special Fabrics
- Clothing Construction: Teen I
- Clothing Construction: Teen II
- Clothing Alterations I: Complete Women's Alterations
- Clothing Alterations II: Ladies' Pants Alterations
- Clothing Alterations III: Complete Men's Alterations
- Clothing Construction: Lingerie I
- Clothing Construction: Lingerie II
- Clothing Construction: Lingerie III
- Tailoring I: Men's Trousers Construction
- Tailoring II: Men's Sportcoat Construction

Tailoring III: Advanced Men's Sportcoat Construction

Tailoring IV: Ladies' Coats

Tailoring V: Ladies' Suits

Pattern Drafting I

Pattern Drafting II

Pattern Drafting III

Food and Nutrition

- Introduction to Quantity Food Preparation
- Bakery Design I
- Bakery Design II
- Comparative Food Cookery
- Food Preparation for Low Cholesterol Diets
- Food Preparation Using Natural Foods
- Food Preparation: Culinary Art
- International Food Cooking
- French Cooking I
- French Cooking II
- Chinese Cooking
- Company's Coming: Gourmet Food Preparation
- Indian Cooking
- Japanese Cooking
- Greek Cooking
- German Cooking
- Bachelor Survival

Home Accessories

- Home Accessories I: Creative Stitchery
- Home Accessories II: Macrame
- Home Accessories III: Needlepoint
- Home Accessories IV: Knitting I
- Home Accessories V: Knitting II
- Home Accessories VI: Crochet I
- Home Accessories VII: Crochet II
- Home Accessories VIII: Crochet III
- Home Accessories IX: Weaving on a Hand Loom
- Home Accessories X: Quilting I
- Home Accessories XI: Quilting II

Creative Home Accessories

- Creative Home Accessories I: Dip & Drape Sun Bonnet Dolls
- Creative Home Accessories II: China Painting
- Creative Home Accessories III: Leaded Glass Art
- Creative Home Accessories IV: Big Brother & Little Sister Sun Bonnet Dolls

Home Furnishings and Interior Decoration

- Interior Decoration: Problem Solving in Home Decorating I
- Interior Decoration: Problem Solving in Home Decorating II
- Interior Decoration: Drapery Making

Interior Decoration: Slipcover Making
 Interior Decoration: Rug Hooking
 Interior Decoration: Furniture Refinishing
 Interior Decoration: Creative Chair Caning
 Interior Decoration: Upholstery I
 Interior Decoration: Upholstery II
 Interior Decoration: Window and Interior Display
 Interior Decoration: Walls and Woodwork Finishing Techniques
 Interior Decoration: Basics of Floral Arranging
 Interior Decoration: Holiday Decorations
 Interior Decoration: Japanese Modern Style Floral Arranging

Consumer Education

Introduction to Executive Maintenance
 Wig Care Styling: Men and Women
 Introduction to Consumer Education
 Introduction to Home Management
 Home Management for Bachelors
 House Plant Care

Family Living

Introduction to Family Budget Planning
 Introduction to Gerontology

Management

Food Service Supervisory Training
 Introduction to Restaurant Management
 Restaurant-Resort Food Service Training
 Hospital Kitchen Personnel Training
 Executive Housekeeping
 Basic Management Institute

OTHER COMMUNITY AFFAIRS BENEFITS

Service Credit

Community Service Programs are provided for persons desiring self-improvement and personal enrichment. An accumulative transcript will be maintained as a matter of service for each individual and will be available upon request.

Current criteria for successful completion are matters of determination in each program. However, the records kept will indicate whether the student has successfully met the objectives of the specific courses. Accumulation of service credit for applicability to Academic Curricula will be evaluated on an individual basis. Individual assistance will be provided upon written request to the Office of Community Affairs.

Scholarships and Financial Aid

Steve Fournier, Counseling Center

Limited financial aid is available for individuals who are unable to pay their own tuition. If you know of a person who could benefit from a listed class or classes, but is unable to pay the tuition, please call 686-0400, ext. 321, for further information. Ask about our veterans benefits.

Personal Counseling

Steve Fournier, Counseling Center

This service provides opportunities for development through individual and group counseling. This includes aptitude and interest testing, G.E.D. counseling, career information, job placement, individual interviews, as well as education direction.

Included here are courses and workshops offered through the Delta College Human Relations Institute.

EDUCATIONAL EXTENSION

This service is designed to increase educational opportunities to the community by locating classes in the community itself. This is done through establishing evening classes in a variety of locations, including classes in cooperation with local schools, churches, government agencies, private associations, television courses through Channel 19 and neighborhood extension centers.

CURRENT EXTENSION CENTER LISTING:

Bridgeport-Spaulding Community Schools
 Bridgeport High School

Carrollton Public Schools
 Carrollton High School

Chesaning Community Schools
 Chesaning High School

Essexville Community Schools
 Garber High School

Saginaw Township Community Schools
 Saginaw Township Community Education Office

Standish-Sterling Community Schools
 Standish-Sterling High School

EDUCATION EXPANSION

This service provides educational programming designed to reach beyond the limitations of College credit restrictions. The programs stress the upgrading of skills as well as the learning of new career occupations.

SOCIAL OUTREACH

This service deals with the continuing social problems of our tri-country community and seeks answers to the critical issues facing our service area.

CULTURAL DEVELOPMENT

This service offers opportunities for individual community members to participate in a wide variety of cultural activities including arts tours at home and abroad, drama courses on location in community theatres, crafts and arts programs both on campus and in the community and self-development through other forms of creative involvement.

LEISURE TIME ACTIVITY

This service encourages community members to participate in a variety of hobby and recreational activities, such as sport instruction, senior citizens' activities, and such unusual courses as Interior Decoration, Taxidermy, Photography, Yoga, Poodle Grooming, Hypnotism, etc.

CONTRACT PROGRAMS

Business and Industry often need special training or retraining programs for employees whose jobs have become obsolete or for newly created positions. Among these we would include programs for the upgrading of minority and disadvantaged individuals. This service offers the individual corporation or business an opportunity to structure a course to meet their specific training needs.

Specialized new training programs from 5 to 20 weeks have been run for the following companies:

Saginaw General Hospital
Aerospace Dynamics, Inc.
State of Michigan
Michigan Bell Telephone
Michigan Education Assoc.
American Hoist and Derrick Co.
Saginaw Steering Gear
Saginaw News
Saginaw Public Schools
Dow Chemical
Saginaw Model Cities
Saginaw Housing Commission
Unity Urban Non Profit Housing Corp.

Interested corporations and business should contact Dr. Ronald J. Crossland, Community Education Office—686-0400, Ext. 267

FEDERALLY FINANCED PROGRAMS

1. CAREER PREPARATION INSTITUTE

The C.P.I. Program is designed to assist disadvantaged students of all cultures, who are unable to compete in the college setting due to the lack of basic skills of math, communications and general sciences.

For more information, call 686-0400, ext. 251

2. FAMILY LIVING RESOURCE CENTER

The project is designed to provide basic orientation and training to disadvantaged persons, which can lead to occupations in human services including: Child Care Assistance; Food and Nutrition; Health Service Assistance; Clothing Construction and Management. For more information call 755-6281

3. SAGINAW INMATE REHABILITATION PROJECT

The project is designed to assist a minimum of 175 inmates. The program will implement programs of basic education, high school completion, entry level college classes, alcohol and drug rehabilitation, vocational counseling and individual counseling and self evaluation. Many various community agencies will work and participate in the program.

For more information, call 799-9200

CERTIFICATE PROGRAM ACTIVITIES

Community Education offers the following certificate programs. Upon completion of the requirements for each sequence, a certificate is awarded to the student. Many employers encourage employee education through tuition reimbursement for these programs.

Blue Print Reading
ABC Shorthand
Law Enforcement
Labor Union Education
Legal Secretaries
Medical Assistant
Certified Professional Secretaries
Stationary Boiler Foreman
Auto Mechanics' Series
Electricians' Series
Professional Engineering Refresher
Income Tax Practices
Chartered Life Underwriters
Home Builders' Series
Plumbing
Substance Abuse

WOMEN'S OPPORTUNITIES

With more women coming back to school than ever before, Delta College has been making special efforts to assist them in reaching their goals. Our programs and services have three major thrusts:

1. Self-exploration through personal growth to gain insight into one's self, our relationships with others, and to the world around us. Small groups are led by women trained by the Oakland Continuum Center.
2. Career Exploration through analysis of interests, abilities, and other personal factors as they relate to the world of work. Credit and non-credit classes, as well as individual counseling, are available.
3. Numerous learning opportunities through a variety of classes designed to enrich your life. From short term job training, to advanced degrees, or for personal and family enrichment.

The following personnel are available for more information regarding women's opportunities at 686-0400.

Janine Socier Admissions Office, extension 328
Evy Surfus
Steve Fournier Counseling Center, extension 321
Barbara Hill Community Education, extension 646

CONFERENCE DEVELOPMENT

The Office of Conference Development provides services to business and industry, professional groups, educational association, community organizations, college-related groups and the general public in the planning of conferences, including workshops, seminars, institutes, symposia and lectures.

Conference services include:

1. Planning program content and format, speakers and consulting.
2. Costs and registration fees.
3. Housing, meals and meeting rooms.
4. Programs, announcements, registration materials, meal tickets, badges and other items.
5. Mailing programs and registration materials.
6. Registration
7. Audio-visual aids and recording equipment with a trained operator.
8. Publicity and public relations.
9. Tours and entertainment.
10. Conference Rosters.
11. Publication of conference proceedings and results.
12. Open and closed circuit television.
13. Evaluation of conference.

ADVISORY COMMITTEES

The advisory committees at Delta College serve as a bridge of communication between the educator and the career world.

Advisory Committees consist of employers, organizations and employees within a particular field, as well as Delta College personnel. They assess and evaluate manpower needs, immediate and future, and provide descriptions of career skills needed. Established programs with similar objectives are researched or data is collected about the need for new programs.

In the development and evaluation of career entry and up-grading programs, there are over 350 tri-county residents representing their specific fields of work, including health, technical, business and public service areas.

The Advisory Committee is a vital part of the function upon which a community college builds its academic programs.

CULTURAL ACTIVITIES

Cultural interests of the Delta College Community are given a wide range of expression. Perhaps most typical of the numerous cultural events are those found in the Summer Festival of Arts, which offers ballet, creative writing, a summer conservatory of music, a seminar in theatre, crafts & arts and photography. Also a part of the summer program are the Concerts in the Court, chamber music and opera which have been widely acclaimed by patrons of the Saginaw Valley Area.

The Delta College Fine Arts Series has brought to the campus a variety of lecture and concert performances throughout the school year. Available to the general public, these events are offered to students at a nominal cost. Also available to students at a nominal cost or with no admission charge, are most of the major musical, theatrical, and artistic events of the larger communities. Displays of art by Delta students and by students of public and parochial schools, are supplemented by "Traveling Shows" designed to enrich the aesthetic experience of Delta students.

WUCM-TV (CHANNEL 19)

Television facilities at Delta College provide an educational opportunity for the tri-county area comparable to that available in some of the largest metropolitan centers of the United States.

As a logical extension of the community service responsibility of a community college, Delta College owns and operates WUCM-TV Channel 19, a public broadcasting station, affiliated with national and regional educational networks.

The responsibility of television at Delta College is to provide educational, cultural and public affairs programs to the residents of the district which Delta College serves. To fulfill this responsibility, WUCM-TV broadcasts daily instructional programs to public and

parochial schools; training programs to business and industry; children's programs, cultural programs, and public affairs programs to the general home audience.

TOURS AND SPEAKERS

College-wide tours are available to all interested persons and are conducted by either the student Tour Bureau or representatives of Community Affairs Office. Special tours of television, WUCM-TV (Channel 19), and the Data Processing Center, are conducted by experienced staff members. Tours range from 30 to 90 minutes and may be combined with a planetarium showing.

Delta College's Speakers Bureau provides speakers for any professional, civic or service organization and for schools and interested groups. College faculty and staff members are available to speak on a wide range of topics.

For more information, contact the College Relations Office.

PLANETARIUM

The Delta College Planetarium is located in Room B-203 at the northeast corner of the college. The facility is available to organizations and groups of individuals without charge.

Arrangements for planetarium shows are made through the College Relations Office, Ext. 206. The sky is presented as it appears at any time of the day or night for any time in the past or future from any point on earth. The Planetarium can improve on nature with projection devices that are helpful analytical tools necessary in the study of space science and by relating astronomy to other subjects such as mathematics and geography.

By showing the student what happens and how to observe it, the Planetarium offers an experience which aids clear conceptualization, faster learning and longer retention.

As a visual aid the facility is not an end in itself but one which, when used wisely in conjunction with the traditional classroom in pre-planetarium orientation and follow-up, can provide an excellent program involving hundreds of students each year.

Some areas in which the Planetarium can be helpful are:

1. **Teachers' Workshops.** A series of programs to acquaint elementary and high school teachers with the nature of space and the astro-science lab. (Sponsored by Senior University.)
2. **Elementary School.** A series of programs integrated into their units in grades three to eight.
3. **Special Events.** A special program for general education concerning a certain event, either natural or planned, in space.
4. **Clubs.** Special programs devoted to particular interest of these groups in such areas as celestial navigation, radio astronomy and extra-terrestrial life.

5. Community.

- a. Adult lecture series.
- b. Saturday morning youth groups.
- c. Evening industrial, civic, and general community groups.

6. **Testing.** Provided for groups taking part in the evaluative program, to determine the amount of measurable learning taking place during a particular Planetarium visitation.

COMMUNITY DEVELOPMENT

Delta College faculty, students, and staff, as well as supportive physical resources, make community research and study available to qualified organizations. Faculty and staff combine as individual and interdisciplinary consulting teams to provide a further source of community development.

Studies as diverse as the needs of senior citizens to computerizing high school administrative functions are typical community development services.

The data census bank at Delta College, for example, has stored on computer the latest census information. This information will be made available to the business-industrial sector of the tri-counties upon request.

Another example is the Student Volunteer Program. Over 150 students volunteer their time in agencies as various as Legal Aid, inner-city projects, hospital units, senior citizens organizations and many other federal programs and state and local agencies.

At present, several offices are involved in community development. However primary responsibility rests with the Offices of Research and Development, Community Affairs, and College Relations.

FACULTY

EMERITUS FACULTY

Devol, Lloyd (1961-1963)	Omans, Margaret (1961-1963)
Elkin, Cova (1961-1968)	Parks, Dr. Harry (1961-1970)
Ewing, Meta (1961-1964)	Plum, Kathleen (1961-1966)
Freed, Samuel (1961-1969)	Thompson, Ada Royal (1961-1962)
Fritzemeier, Hulda (1961-1968)	Williams, Fred (1961-1963)
Gase, Florence (1962-1968)	Wilson, George (1961-1968)
Hellmuth, Erma (1961-1963)	Wilson, Zane (1961-1966)
Lagden, Olive (1961-1972)	Woodford, Marion (1961-1971)
Lynch, Aline (1961-1974)	

Adams, Lorne P. Associate Professor of Physics and Chemistry
B.A.; M.A. University of Michigan

Alberda, Maurice S., Jr. Associate Professor of English
B.A. Kalamazoo College
M.A. University of Michigan

Altenhof, Carl L. Associate Professor of Biology
B.S. California State College
M.S. University of Michigan

Arman, Harold D. Associate Professor of Political Science
B.S.; M.A. Western Michigan University

Augustine, John F. Assistant Professor of English
B.A. University of Michigan
M.A. New York University

Bauer, Chal S. Coordinator of Radiologic Technology
Registered Radiologic Technologist
University of Michigan Medical Center

Berry, Darrell R. Assistant Professor of Machine Tool
Journeyman Toolmaker
A.S. Flint Junior College
B.S. Ferris State College

Blackwell, Dana E. Assistant Professor of English
B.A. Radford College
M.A. Virginia Polytechnic Institute

Boeke, Robert M. Assistant Professor of Business
B.A. University of Michigan
J.D. University of Wisconsin

Borgman, Clayton H. Associate Professor of Biology
B.A. Hope College
M.A. Western Michigan University

Breed, Charles A. Professor of Art
B.S. Western Michigan University
M.S. University of Wisconsin

Brinn, John H. Associate Professor of Mathematics
A.A. Freed Hardeman College
B.S.; M.A. Murray State University

Bush, Suzanne K. Instructor in Secretarial Science
B.S.; M.A. Western Michigan University

Butcher, Larry D. Assistant Professor of Art
B.S.; M.A. Central Michigan University

Cady, Loren E. Associate Professor of Music
A.A. Bay City Junior College
B.M. Oberlin College
M.M. University of Michigan

Cahill, Brendan R. Associate Professor of English
B.A.; M.A. University of Southern California
M.A. University of Michigan

Campbell, Barry D. Associate Professor of Physical
B.S. Eastern Michigan University Education and Health
M.S.; Ph.D. Indiana University

Campbell, Robert D. Instructor in Automotive Service
A.S., Delta College
B.S.E., M.S.E. University of Michigan

Carlson, Barry A. Assistant Professor of Geology
B.A.; M.A. University of Wisconsin
Ph.D. Michigan State University

Carrico, Paul E. Associate Professor of Political Science
B.A. University of Notre Dame
M.A. Harvard University

Catacosinos, Paul A. Assistant Professor of Geology
B.A.; M.S. University of New Mexico
Ph.D. Michigan State University

Cheger, Jean G. Associate Professor of Sociology
B.S.; M.Ed.; Ed.D. Wayne State University

Christensen, James A. Assistant Professor of Business
A.A.S.; B.S. Ferris State College
M.A. Michigan State University

Cisky, Carl F. Associate Professor of Geography
B.A.; M.A. Western Michigan University

Conway, Lynn V. Associate Professor of Physical Education
B.S.; M.A. University of Michigan and Chairman of
Health, Physical Education,
and Recreation Division

Corliss, Bruce C. Professor of Geology
B.S.; M.S. University of Michigan

Crowell, Jack L. Associate Professor of Mathematics
B.S.; M.S. Michigan State University
M.S. University of Illinois

Decarbo, Michael A. Assistant Professor of English
B.A.; M.A. California State College

Denman, Charlotte A. Associate Professor of Physical
B.S.; M.S. Indiana University Education and Recreation

DeVinney, Robert H. Professor of Mathematics
B.S. Albion College
M.A. University of Colorado
M.A. University of Kansas

Doll, Louis W. Professor of History
B.A.; M.A.; Ph.D.; B.A.L.S. University of Michigan
Ph.D. (Honorary) Nihon University

Dolson, Jessie R. Assistant Professor of Nursing
R.N. St. Joseph's Mercy Hospital
B.S.N. Central Michigan University

Drury, Patricia Associate Professor of History
B.A. Occidental College
M.A. Claremont College

Duckworth, Gene R. Associate Professor of Speech and
B.S.; M.A. Northwestern University Chairman of Humanities
Division

Duke, Diana L. Instructor in Nursing
B.S. University of Texas
M.S. Texas Woman's University

Dungy, Wilbur L. Associate Professor of Biology
A.S. Jackson Junior College
B.S.; M.S. University of Michigan
Ph.D. Michigan State University

Dunn, John A. Assistant Professor of Economics
B.A. Grambling University
M.A. University of Toledo

Eggleston, Patricia C. Associate Professor of Speech
B.A.; M.A. University of Michigan

Ellison, Gerald V. Assistant Professor of English
A.S. Amarillo College
B.A.; M.A. Texas A & M University

Enger, Eldon D. Associate Professor of Biology
A.S. Alpena Community College
B.S., M.S. University of Michigan

Feusse, Floyd A. Professor of Business
B.S. Central Michigan University
M.A. Colorado State College

Fischer, Marilyn C. Instructor of Dental Assisting
Registered Dental Hygienist
A.A. Diablo Valley College

Flattery, John M. Assistant Professor of Radiologic Technology
Registered Radiologic Technologist, St. Mary's Hospital
B.S. Western Michigan University
M.A. University of Michigan

Freiwald, Thomas B. Associate Professor of
B.S.; M.S. Stout State University Architectural Technology

Gainey, Frances B. Associate Professor of Business
B.S. Central Michigan University
M.S. Michigan State University

Gavin, Thomas M. Instructor in English
B.A.; M.A. University of Toledo

Gibson, Andrew H. Associate Professor of Biology
B.S. University of Michigan
M.A. Michigan State University
M.S. University of Minnesota

- Gibson, Judith Y.** Instructor of French
B.A.; M.A.T.; M.S.; Indiana University
- Glynn, Lawrence E.** Associate Professor of History
B.A. Marquette University
M.A. Wayne State University
- Godard, Joseph M.** Associate Professor of Psychology
B.A.; M.A. Wayne State University
- Gore, Suzanne M.** Instructor of Nursing
B.S.N.; M.N. Montana State University
- Gosser, Jon W.** Assistant Professor of Psychology
B.S.; M.S. University of Washington
- Grau, Gideon** Director of Summer Conservatory of Music
- Greene, G. Nelson** Assistant Professor of Science
B.A. Alma College
M.A. University of Michigan
- Gronewold, Joan B.** Assistant Professor of English
B.A.; M.A. University of Michigan
- Grossman, Geneva H.** Associate Professor of English
B.A. Allegheny College
M.A. University of Michigan
- Guild, William S.** Assistant Professor of Residential
B.A. New York State Teacher's College Construction
M.A. University of Michigan Technology
- Habercom, David S.** Instructor of English
B.A. Guilford College
M.F.A.; M.A. University of Iowa
- Hackbarth, Clarence W.** Associate Professor of Sociology
B.A. Elmhurst College
M.S. University of Wisconsin
- Hall, Gerald L.** Associate Professor of English and
B.A. Michigan State University Chairman of English Division
- Halog, Donald B.** Assistant Professor of English
B.S. University of San Francisco
M.A. University of Illinois
- Hammontree, Peggy E.** Associate Professor of Business
C.B.S. International College
B.A. Butler University
M.S. Indiana University
- Hanna, Gayle D.** Assistant Professor of Nursing
B.S.N. University of Michigan
- Hansen, Sarah R.** Assistant Professor of Music
B.S.; M.M. Michigan State University
- Harman, William C.** Associate Professor of English
B.A. Findlay College
B.B. Chicago Theological Seminary
M.A. Bowling Green University
- Harper, Susan F.** Instructor in Dental Assisting
A.A.S.; B.S. Ferris State College
- Heinert, J. Sumitra** Associate Professor of Geography
B.A. Isabella Thoburn College
M.A. Allahabad University
- Henning, Otto E.** Associate Professor of English
B.S. Central Michigan University
M.A. University of Michigan
- Hieber, William R.** Associate Professor of Business
B.S. University of Dayton
M.B.A. Xavier University
M.A. Central Michigan University
M.Acct. University of Georgia
- Hilbert, Robert J.** Associate Professor of Biology
Certified Medical Technologist, State of California
B.S. Oglethorpe University
M.S. Central Michigan University
- Hoerneman, Calvin A.** Associate Professor of Economics
B.A. Bethany College
M.A. Michigan State College
- Hoffmann, John T.** Assistant Professor of Mechanical Drafting
B.S.; M.S. Stout State University
- Holcombe, Michael L.** Assistant Professor of
B.S.E.E. University of Florida Electronic Technology
M.S.E.E. Montana State University
- Holzhei, Don E.** Assistant Professor of
B.S. Michigan State University Medical Technology and
M.S. Cornell University Chairman of Technical Division

Hooker, Clarence Assistant Professor of Political Science
B.A.; M.A. Western Michigan University

Howard, David C. Associate Professor of Economics
B.S. Ball State University
M.A. Indiana University

Howden, Richard J. Instructor in Accounting
B.S.; M.B.A. Central Michigan University

Hullum, Valerie J. Assistant Professor of Speech
B.A.; M.A. Wayne State University

Jacobs, Carol A. Assistant Professor of Business
B.S.; M.S. Indiana University

Jarosz, Mitchell H. Assistant Professor of English
B.A.; M.A. University of Detroit

Jernstadt, Phyllis A. Assistant Professor of Dental Assisting
Certified Dental Assistant
A.A.; B.S. Ferris State College

Keefer, Ion E. Lecturer in Automotive Technology
B.A. Ferris State College

Keicher, Robert F. Assistant Professor of Mathematics
A.A. Jackson Junior College
B.A. Western Michigan University
M.A.T. Indiana University

Keil, Martha J. Assistant Professor of English
B.A. University of Kansas
M.A. Central Michigan University

Keim, Isaac W. J. III Associate Professor of Business
B.B.A. Cleveland State University
M.A. Michigan State University
M.B.A. Central Michigan University

Kennedy, Crawford E. Associate Professor of
B.S.; M.A. Michigan State University Physical Education

Kennedy, David R. Assistant Professor of Psychology
B.A. Southern Illinois University
M.A. Iowa State University

Keyser, Dale F. Professor of Business and
B.S. Central Michigan University Chairman of Business
M.A. University of Michigan Division

Kilar, Jeremy W. Assistant Professor of History
B.A. University of Detroit
M.A. Central Michigan University

Klein, Richard E. Professor of Economics and Chairman of
B.A.; M.A. Michigan State University Social Science Division

Kleinsmith, Wilbert C. Associate Professor of
B.A. Eastern Michigan University Mechanical Technology
M.S. University of Michigan

Koblas, Paul E. Assistant Professor of Physics
B.S. University of California
M.S.; Ph.D. University of Oregon

Kormelink, J. Richard Associate Professor of Biology
B.A. Indiana University
M.S. University of Utah

Kostoff, John S. Professor of Mathematics
B.S.; M.S. Michigan State University

Lange, Crystal M. Professor of Nursing and
B.S.N. University of Michigan Chairman of Nursing Division
M.S.N. Wayne State University
Ph.D. Michigan State University

Laughner, Donald L. Associate Professor of Mathematics
B.S.; M.Ed. Edinboro State College
M.A. Louisiana State University

Leek, E. Paul Associate Professor of Law Enforcement
B.S.; M.S. Michigan State University

Lees, Robert N. Associate Professor of Business
B.S.; M.B.A. Central Michigan University

Leeson, Marjorie M. Professor of Business
B.S. Western Michigan University
M.A. University of Michigan

Leffew, James A. Associate Professor of Speech
A.A. Northwestern Michigan College
B.S. Memphis State University
M.A. Central Michigan University

Lehrer, Sharon E. Instructor in Sociology
B.A. Willamette University
M.A. University of Arizona
M.A.T. University of Idaho

Leinberger, Arthur M. Associate Professor of Automotive
B.S. Ferris State College Technology
M.S. University of Michigan

Marquez, Antonio Instructor in English
B.A.; M.A. University of Texas

Martin, Anne E. Assistant Professor of Mathematics
B.A. Oberlin College
M.A. University of Louisville

Mazanec, Joseph L. Associate Professor of Mathematics
B.S. St. Norbert College
M.S. University of Wisconsin
Ph.D. Michigan State University

McClain, Craig A. Assistant Professor of
B.S. Ferris State College Automotive Technology

McCloy, Donna M. Assistant Professor of Business
B.A. Michigan State University
M.A. University of Michigan

McCormick, John W. Assistant Professor of Art
B.F.A.; M.A.; M.F.A. Michigan State University

McGaw, Richard A. Assistant Professor of Speech
B.A. Albion College
M.A. University of Michigan

McGinty, James M. Assistant Professor of English
B.A. University of Michigan
M.A. Central Michigan University

McGivern, Ralph M. Associate Professor of
B.A. University of Michigan Architectural Technology
M.B.A. Central Michigan University

McKinnon, Murlene E. Associate Professor of Speech
B.A.; M.A. Michigan State University

McNeal, Dennis E. Associate Professor of Business
B.S. Northern Illinois University
M.A. Michigan State University

McPhee, Donald A. Associate Professor of Mathematics
B.S. Central Michigan University
M.A. University of Michigan

Mee, Robert M. Assistant Professor of Spanish
B.S. Kansas State Teachers College
M.A. University of Missouri

Mertz, Caroline M. Associate Professor of Nursing
R.N. Saginaw General Hospital
B.S. Saginaw Valley College
M.A. Central Michigan University

Meyers, Charles R. Assistant Professor of Law Enforcement
B.S. Michigan State University

Miller, Richard E. Associate Professor of Residential
B.S.; M.A. Central Michigan University Construction
Technology

Miotto, Donald A. Associate Professor of Drafting
B.S. Eastern Michigan University
M.A. University of Michigan

Molter, Leticia R. Associate Professor of English
B.A. University of the Philippines
M.A. National Teachers College
M.A. University of Missouri
M.A.; Ph.D. University of Pittsburgh

Moore, Paul D. Assistant Professor of Political Science
B.A.; M.A. Rutgers University

Morse, Elsie L. Lecturer in Secretarial Science
B.S. Olivet College
M.B.E. Georgia State University

Most, Clark F., Jr. Associate Professor of Chemistry
B.S. Central Michigan University
Ph.D. Washington State University

Muller, Donald J. Assistant Professor of Business
B.B.A.; M.A. Western Michigan University

Niemann, Richard F. Assistant Professor of Business
B.S.; M.A. Ball State University

Northrup, Richard H. Professor of Biology and Chairman of
B.A. Alma College Science Division
M.S. Michigan State University
Ph.D. University of Minnesota

Ortenburger, Thomas R. Assistant Professor of Sociology
A.A. Riverside City College
B.A.; M.A. University of California

O'Toole, Patricia A. Assistant Professor of Physical Education
B.A. University of Detroit
M.A. University of Michigan

Oughton, Lawrence D. Instructor in Art
B.F.A. Kansas City Art Institute
M.F.A. Cranbrook Academy of Art

Paquin, Joseph R. E. Assistant Professor of Drafting and
Registered Professional Engineer Design Technology

Peregrino, Santiago Assistant Professor of Political Science
B.S.; M.A. University of Texas

Phillips, Velma J. Associate Professor of Nursing
R.N. Saginaw General Hospital
B.S. Eastern Michigan University

Prentice, Richard W. Associate Professor of Physical
B.S.Ed.; M.Ed. Ohio University Education and Recreation

Radey, Charles R. Instructor in English
B.A. University of Notre Dame
M.A. University of Maryland

Radlinski, Paul D. Assistant Professor of Physical Education
B.S. Ed.; M.Ed. Bowling Green University and Health
Education

Remington, Newell H. Associate Professor of Mathematics and
B.S.; M.A. Central Michigan University Chairman of
M.A. Michigan State University Mathematics Division

Renker, Fred W., Jr. Assistant Professor of English
B.A. University of Notre Dame
M.A.T. Duke University

Roberts, Betty J. Assistant Professor-Cordinator for
B.S.; M.A. Central Michigan University Office Occupations

Roberts, Raymond Assistant Professor of Speech
B.A.; M.A. Wayne State University

Roelofs, Gary B. Assistant Professor of English
B.A.; M.A. Michigan State University

Roman, Robert M. Professor of Psychology
B.A. University of Michigan
M.A. Columbia University
Ph.D. University of Houston

Ross, Frederick C. Associate Professor of Biology
B.S.; M.A. Wayne State University

Schuitman, Jerry A. Assistant Professor of Mathematics
A.S. Grand Rapids Junior College
B.S.; M.A. Western Michigan University

Sears, Lois W. Assistant Professor of Business
B.S. Northwestern University
M.S. University of Illinois

Seiler, Charlotte W. Assistant Professor of English
B.A. University of Michigan
M.A. Central Michigan University

Sharp, Ronald L. Assistant Professor of Chemistry
B.S.; M.S. Central Michigan University

Shields, Evelyn Instructor in Speech
A.A. Bay City Junior College
A.B.Ed., A.M., Ph.D. University of Michigan

Smith, Arthur C. Assistant Professor of Chemistry
B.S. Sioux Falls College
B.D. Colgate Rochester Divinity School
M.A. University of South Dakota

Smith, Renee R. Instructor in English
B.A. Fisk University
M.A. State University of New York at Fredonia

Smith, Rodney J. Associate Professor of Biology
B.S.; B.S.Ed.; M.S. Ohio State University

Soddy, James S. Assistant Professor of Mathematics
B.S.; M.S. Michigan State University

Spiller, Leroy J. Instructor in English
B.A. LaSalle College
M.A. University of Toledo

Still, James M. Assistant Professor of Physical Education
B.S. St. Joseph's College and Health Education
M.Ed. Bowling Green University

Stoltz, Ronald R. Lecturer in Speech
B.A.; M.A. Penn State University

Straumanis, Andrejs G. Associate Professor of German
B.A.; M.A. University of Michigan and Russian

Streib, William J. Associate Professor of Electronic Technology
B.S.E.E.; M.A. University of Iowa

Stry, Edward J. Associate Professor of Chemistry
B.A. Canisius College
M.Ed. University of Buffalo
Ed.D. Michigan State University

Stryker, Rhosan D. Assistant Professor of Business
B.A.; M.A. Michigan State University

Thayer, Russell L. Assistant Professor of Art
B.S.; M.A. University of Michigan

Thompson, Elanore M. Associate Professor of Physical
B.S. Central Michigan University Education and
M.S. Michigan State University Health Education

Tingstad, Jerry B. Assistant Professor of Political Science
B.S.; M.S. University of Wisconsin

Tinker, Robert N. Associate Professor of Mechanical
B.S. Michigan State University Technology
M.S. Purdue University

Treadway, Jean S. Assistant Professor of Health,
B.S.; M.S.A. Women's College of the Physical Education
University of North Carolina and Recreation

Verhanovitz, James A. Assistant Professor of Mathematics
B.S. Saginaw Valley College
M.A. University of Michigan

Ware, Iva W. Assistant Professor of Business
B.S. Wayne State University
M.A. University of Michigan

Weyer, Donna J. Assistant Professor of Mathematics
B.A. Youngstown University
M.A. Kent State University

Whipple, Mary Lou Instructor in Nursing
B.S.N. Wayne State University

Whittaker, Joyce E. Associate Professor of Nursing
B.S.N. Ohio State University
M.A. Central Michigan University

Whittaker, Marion H. Assistant Professor of Chemistry
B.S.; M.S. University of Detroit

Wiley, Judith A. Assistant Professor of Political Science
A.A. Stephens College
B.A.; M.A. University of Detroit

Wilhelm, John R. Associate Professor of Political Science
B.A. Ohio State University
J.D. University of Michigan Law School

Williams, David R. Assistant Professor of Geography
B.S. Central Michigan University
M.A. Western Michigan University

Wojcik, Bonifacia M. Assistant Professor of Nursing
B.S.N. University of Santo Tomas

Yops, Katherine C. Instructor in Nursing
R.N. Borgess School of Nursing
B.S.N. St. Louis University
M.S.N. Catholic University

Ziegler, Alice B. Associate Professor of English
B.A. Illinois Wesleyan University
M.A. Northwestern University

JOINT-APPOINTED FACULTY

Baldwin, Mark D. Instructor in Radio-Television
B.A.; M.A. Michigan State University

Ballard, William J. Associate Professor of Radio-Television
B.S. Auburn University
M.S. Syracuse University

Bethune, Richard H., D.O. Associate Professor of Radiologic
A.S. Grand Rapids Junior College Technology
D.O. Chicago College of Osteopathy

Heuschele, Richard F., M.D. Associate Professor of
B.S. Alma College Radiologic Technology
M.D. University of Michigan Medical School

Marsico, Leonard P. Instructor in Radio-Television
B.F.A. University of Cincinnati
M.A. University of Michigan

Rapp, M. Andersen Assistant Professor of Radio-Television
B.A. Colgate University
M.S. State University of New York

Rowe, Paul W., M.D. Associate Professor of Radiologic
B.S. Wayne State University Technology
M.D. University of Michigan

Tramitz, Melvin E. M.D. Associate Professor of
M.D. Marquette University Radiologic Technology

ADMINISTRATIVE STAFF

Anderson, Douglas M. Associate Dean of Learning Resources
A.A. Flint Community College
B.A.; M.A. Michigan State University

Arman, Harold D. Assistant to the President
B.S.; M.A. Western Michigan University

Arnold, M. Gene Administrative Dean
B.A. Alma College
M.A. Michigan State University

Atkinson, Roy C. Assistant Director of Physical Plant
B.S. (EE) U.S. Naval Academy

Ballard, William J. Director and Station Manager, Television
B.S. Auburn University
M.S. Syracuse University

Barckholtz, Judy G. Assistant to the Academic Dean
B.S. Dr. Martin Luther College

Briggs, John E. Director of Conference Development and
B.A. Michigan State University Liberal Arts Coordinator,
M.A. Eastern Michigan University Community Education

Cameron, David A. Accountant
B.S. Central Michigan University

Carlyon, Donald J. President
B.S. University of Nebraska
Doctoral Program, University of Michigan

Ceglarek, Frances Assistant to the Registrar

Conway, Lynn V. Director of Athletics
B.S.; M.A. Michigan State University

Crane, Janet-Ann E. Director of Child Care Center
B.A. Olivet College

Crossland, Ronald J. Associate Dean for Community Affairs
A.A. Bay City Junior College
B.S. Central Michigan University
M.A. Michigan State University
Ph.D. Michigan State University

Crovella, Michael L. Business Manager
B.A. Michigan State University

Dalzell, Allan R. Assistant Bookstore Manager
B.A. Michigan State University

DuBois, Karl F. Dean of Community Affairs
B.S. Ferris State College
M.A. Western Michigan University

Duguid, Ellsworth J. Dean of Student Affairs
B.S. State University of New York at Brockport
M. of Ed. State University of New York at Buffalo

Ferrett, Sharon K. Assistant Dean for Instruction
A.A. St. Clair Community College
B.A.; M.A. Western Michigan University

Fettig, Burton S. Associate Dean of Student Affairs
A.A. Bay City Junior College
B.S. George Williams College
M.A. Central Michigan University
Ed.D. Indiana University

Fisher, John M. Assistant Director of Food Services

Fuller, John A. Registrar
B.S.; M.S.; Ed.S. Michigan State University
Ed.D. Duke University

Goodburne, Bruce N. Assistant Director of Financial Aid
B.A. Michigan State University

Haskell, Thomas E. Program Director, Television
B.A. Pennsylvania State University
M.S. Syracuse University

Heatley, G. Lynn Consultant
B.S. Michigan State University
M.S. Cornell University

Hill, Barbara L Coordinator of Family Living, Home Economics, and Consumer Education—Community Education
B.S. Ball State University

Hinton, Faith E. Administrative Aide, President's Office
B.S.; M.A. Western Michigan University

Hogerheide, Merwin D. Personnel Director
B.S. Central Michigan University

Homeister, Owen E. Associate Dean for General Education
B.A.; M.A. Miami University

Krafft, John H. Director of College Relations
B.A. Albion College

Krawczyk, John L. Controller
B.A. Michigan State University

Limberg, Thomas W. Director of Placement
B.S.; M.A. Central Michigan University

Lingenfelter, John R. Bookstore Manager
B.S. Shippensburg Pennsylvania State College

Luce, Everett N. Special Assistant to the President
B.S.; Ph.C. University of Colorado
L.H.D. Northwood Institute
L.L.D. Central Michigan University

Maher, William J. Business Coordinator, Community Education
B.S.; M.B.A. Central Michigan University

McCollum, Osgood L. Accountant
B.A. Michigan State University

Micho, Aceie W. Director of Purchasing and Assistant to Business Manager
A.B.S. Delta College

Myles, Leslie Director of Research and Development
B.A. Scripps College
M.A. Wayne State University

Nicholson, Betty A. Operations Manager, Data Processing

Oates, Louis S. Staff Assistant, Student Services
B.S. Central Michigan University

Oettmeier, Arthur J. Dean of Academic Affairs
B.S. Stout State University
M.A. University of Michigan

Packwood, Glen E. Research Associate
B.S.; M.A. Northeast Missouri State University

Paulson, Benjamin A. Director of Computer Services
B.A.; M.A. Mankato State College

Priebs, Richard E. Director of Student Activities
B.S.; M.A. Western Michigan University

Pung, Janet E. Assistant to Director of College Relations
B.A.; M.A. Central Michigan University

Reading, Willard L. Director of Physical Plant
B.S. Michigan State University

Rock, Terrence L. Director of Alumni
A.A. Delta College
B.S. Eastern Michigan University
M.A. Central Michigan University

Rotter, John D. Director of Housing and Residence Director
B.A. Central Michigan University

Royan, Martha H. Assistant to the Director of Financial Aid
B.A. Alma College

Scott, Dean L. Director of Admissions
B.S.; M.A. Eastern Michigan University

Serumgard, Guy E. Operations Manager, Television
B.S. University of Illinois
M.S. Michigan State University

Schmidt, Alvin H. Coordinator of Experiential Learning
B.S. Stout State University

Stewart, Donald A. Director of Food Services
B.S. Michigan State University

Streiff, Karl D. Director of Financial Aid
B.A. Michigan State University
M.A. University of Michigan

Thompson, Willie E. Administrative Assistant to the Dean of
A.A. Bay City, Junior College Academic Affairs and Dean of
B.S. Western Michigan University Student Affairs

Underwood, Terrence L. Director of Safety and Security

Verhanovitz, James A. Coordinator of Skilled Trades Program
B.S. Saginaw Valley College
M.A. University of Michigan

White, Charles E. Associate Dean for Occupational Programs
B.B.A.; B.S.; M.A. University of Minnesota

Wieland, Rebecca Coordinator for Allied Health Programs
B.S. University of Wisconsin

Wirtz, Richard L. Associate Director of Admissions
A.B.; M.A. Central Michigan University

Woods, Raymond A. Chief Engineer and Assistant Station
Manager, Television

PROFESSIONAL SUPPORT STAFFS

Academic Affairs

Walters, William M. Learning Center Specialist
B.A. University of Kentucky
M.A. University of Tennessee
Ph.D. Georgia State University

COUNSELORS

Corbishley, Elizabeth Counselor
A.B.; M.A. Michigan State University

Davis, David L. Counselor
B.S.; M.A. Central Michigan University

Fournier, Stephen Counselor
B.A. Merrimack College
M.A. Central Michigan University

Frazier, Sandra L. Counselor
A.A. Genessee Community College
B.S.; M.A. Central Michigan University

Hansen, Fred A. Counselor
B.S.; M.A. Western New Mexico University
M.S. Purdue University

Konowalow, Stephen Counselor
B.A. State University of New York at Buffalo
M.A.; Ed.S. Central Michigan University

Montesi, Susan J. Counselor, Chairman
B.S. Ferris State College
M.A. Central Michigan University

Pease, George O. Counselor
B.S.; M.S. Stout State University

Surfus, Evelyn M. Counselor
B.A.; M.A. Michigan State University

Suurna, Harry Counselor
B.A. Lake Superior State College
M.A. Western Michigan University

Wolff, Harry L. Counselor
A.A. Bay City Junior College
B.S.; M.A. Central Michigan University

DATA PROCESSING

Gorney, Ronald S. Programmer Analyst

Ness, Jerald S. Financial Systems Analyst
B.A. University of Northern Iowa
M.B.A. Central Michigan University

Wackerly, Michael R. Programmer Analyst
A.B.S. Delta College

LEARNING RESOURCES

Berkan, Esther I. B.S. in Ed.; M.A. Central Michigan University	Librarian
Brow, Judith A.B.; A.M.L.S. University of Michigan	Librarian
Fleming, Robert M. B.A.; M.A. Western Michigan University	Media Specialist
Koschik, Douglas R. A.B.; A.M.L.S. University of Michigan	Librarian
Vilks, Zigrida B.A.; A.M.L.S. University of Michigan	Librarian

TELEVISION

Baldwin, Mark D. B.A.; M.A. Michigan State University	Producer-Director, Television
Brewster, Frank L. B.A. Salem College M.A. West Virginia University	Instructional Media Coordinator, Television
Marsico, Leonard P. B.F.A. University of Cincinnati M.A. University of Michigan	Producer-Director, Television
Rapp, M. Andersen B.A. Colgate University M.S. State University of New York at Genesio	Executive-Producer, Television
Scott, Lamarr W. B.S.; M.A. Central Michigan University	Producer-Director, Television

SUPPORT STAFF

Arnold, Jon	Programmer/Operator, Data Processing
--------------------	--------------------------------------

Boggs, Linda	Assistant to Director Food Services
Brinks, Douglas	Television Technician
Conley, Harold	Transmitter Engineer
Crouse, Diane M.	L.R.C. Technician—Science Division
Dahn, Richard A.	Computer Shift Supervisor and Operator, Data Processing
Johnson, Christine A.	Instructional Artist
Krenz, Robert	Electrician
MacPhee, David	College Relations, Photographer
Mahan, Mary	L.R.C. Technician—Science Division
Medina, Ricardo	Para-professional, Student Services
Mlinarcik, Kathleen	Coordinator of Volunteer Programs
Mueller, Rodney	Mechanical Lab Technician
Murphy, Patricia A.	Counselor Aide
Naiman, Rejeana	Supervisor, Interlink Project
Oppermann, Barbara N.	Television Coordinator
Pfund, James	Plant Engineer
Pumford, Susan A.	Television Coordinator
Rogers, Nancy K.	Television Promotion, Coordinator
Roselle, Robert	Maintenance Supervisor
Sabyan, Gayle L.	Nurse
Saladine, Clifford D.	Television Technician
Spyker, Stephen K.	Television Technician
Stevens, Victor	L.R.C. Technician—Auto Technology
Wagenseller, George	Studio Supervisor, Television
Waldbauer, Richard E.	Duplicating Supervisor
Weiss, Theodore	General Services Supervisor

Young, David T.

Artist

SPECIAL PROJECTS STAFF

Cox, William Counselor, Saginaw Inmate Rehabilitation Project

DePrekel, Thomas W. Coordinator of Veteran Services

Gonzalez, Ramiro C. Outreach Project

Hinley, David Para-Professional Aide

Hollis, Thomas E. Outreach Project

Johnson, Cornelious Director, Saginaw Inmate Rehabilitation Project

King, Ceaser P. Field Specialist, Saginaw Inmate Rehabilitation Project

Laughner, Donald L. Coordinator of Advanced Institutional Development Grant

Pugh, John L. Career Preparation Specialist

Socier, Jeanine Outreach Project

Witherspoon, Juanita Coordinator of Family Living Resource Center



INDEX

Academic Information	20	Community Services	117	History Courses	97	Psychology Courses	105
Accounting		Conservation	27	Housing Information	24	Publications	29
Major requirements	36	Cooperative Education		Hotel Administration	29		
Description of courses	57	Courses	59				
Accreditation	12	Cooperative Education		Industrial Supervision	53 & 107	Radio-Television Courses	77
Administration	138	Information	34	Instrument Technology		Major requirements	47
Admissions Information	15	Counseling Services	117	Major requirements	53	Description of courses	86
Agriculture	34 & 95	Course Descriptions	57	Description of courses	105, 106	Real Estate (Major)	42
Airline Hostess	36	Data Processing (Transfer)	37	Interior Decoration	62	Real Estate Courses	59
Airline Hostess (clerical)	36	Data Processing (Career)	32	Journalism Courses	66	Records and Transcripts	22
Architectural Technology		Description of courses	60			Refund Policy	16
Major requirements	50	Dental (Pre)	29	Labor Relations Specialist		Residential Construction	
Description of courses	108	Dental Assistant	29	Major requirements	48	Major requirements	55
Art	71	Major requirements	45	Description of courses	106	Description of courses	115
Associate Degrees Information	22	Description of courses	85	Law (Pre)	29	Retail & Mid-Management	42
Automotive Technology		Dental Hygiene	85	Law Enforcement		Russian Course	73
Major requirements	51	Distributive Education	61	Major requirements	49		
Description of courses	102	Drafting		Description of courses	103	Scholarship Information	25
Automotive Service	51	Major requirements	52	Learning Resources Center	13	Secretarial (One Year)	37
Automotive Service		Description of courses	111	Library Science	74	Secretarial	44
(Specialist)	51	Economics Courses	101	Literature Courses	66	Secretarial (Chemical)	43
Aviation Courses	95	Education (See specific major)	69	Loan Funds	24	Secretarial (Legal)	44
		Electronic Technology				Secretarial Science Courses	64
Basic Science Courses	94	Major requirements	52	Marketing	40	Social Health Services	
Biology Courses	94	Description of courses	112	Mathematics Courses	80	Assistant	50
Bookstore	26	Employment Information	26	Mechanical Technology		Sociology Courses	105
Botany Courses	94	Engineering (Pre)	29	Major requirements	54	Spanish	73
Broadcasting		English Courses	66	Description of courses	114	Speech Courses	78
Major requirements	48			Medical Assistant	41	Student Activities	26
Description of courses	77	Faculty	129	Medical Technology	29	Student Services	23
Business Administration	34	Fashion		Medicine (Pre)	29		
Business Career Programs	34	Major requirements	38	Mortuary Science	29	Technical Career Programs	50
Business Communication		Description of courses	98	Music Courses	74	Television	127
Courses	63	Financial Aid Information	24			Testing	23
Business Machine Courses	60	Fire Protection	98	Nursing (B.SC)	29	Transfer Programs	27
Business (General) Courses	63	Forestry	27	Nursing R.N.		Tuition Information	16
Business Education	27	French Courses	72	Major requirements	46		
Business Management				Description of courses	84	Urban Professional Assistant	
(Small)	39	General Information	11			Major requirements	50
Bus Transportation	26	General Marketing	40	Parking	26		
		Geography Courses	98	Pharmacy (Pre)	29	Veterinary (Pre)	29
Career Programs	34	Geology	99	Philosophy Courses	77	Veteran's Benefits	25
Calendar 1975-76	8	German Courses	72	Physical Education (Health)			
Chemical Technology		Graduation Requirements	23	Description of courses	88	Withdrawal Information	21
Description of courses	98	Grading Scale	20	Physical Science Courses	100	Who To Contact at Delta	
Chemistry				Physics Courses	100	College	Inside Front Cover
Major requirements	30	Health Science	85	Placement	25		
Description of courses	97	Health Services	23	Political Science Courses	104		
Continuing Education	13						

Delta College, University Center, Michigan 48740